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Original Communications.

ART. I.—*Experimental Researches on the Post-Mortem Contractility of the Muscles, with Observations on the Reflex Theory.* By BENNET DOWLER, M.D., of New Orleans.

IN carrying out the limited aim of this monograph, it is necessary to enter upon a sterile field, which has been, nevertheless, much cultivated of late by some of the most eminent medical philosophers, and, if my labors shall lead to results different from theirs, that difference will be stated with all due deference and candor, without indulging in a spirit of controversy unwarranted by the exigencies of the occasion. In matters of an unsettled or disputable nature, the collision of opinion with opinion, of argument with argument, may elicit the spark of truth to guide us into the right path.

Avoiding, as much as possible, all general observations on the anatomy, physiology, and pathology of the Nervous System, except so far as they stand related to muscular motion and the Reflex Theory, I will at once admit that the Reflex doctrine is ingenious, and has been useful in exciting inquiry, though its claims as a fundamental principle of science are, as I expect to show, altogether visionary. An entire devotion to the truth, in the examination of this subject, implies neither presumption nor temerity.

The Neologies of the Reflex system, independently of its doctrines, are alike puzzling to teacher and pupil, and foreign to the genius of both ancient and modern lexicons, and will afford the future historian of medical literature, curiosities, not to say enigmas—

> "Words so hard no stone
> Is hard enough to touch them on."

Afferent and Efferent; Ingestive, Egestive, Centric and Excentric; Excito-motor, Motor-excitor, Incident-excitor, Motor primitive fibril, Sen-

sitive primitive fibril, Motor-sensory-grey matter, Sensory-grey matter, Centrifugal and Centripetal nervous conductions, Psychical, connate, Sensori-volitional, Idea-genic, Kinetic, and other kinds of strata and substrata, with many Reflex changes acting on the histological stratifications, etc!

Whether this technology shall be planted firmly in our dictionaries, depends not so much upon the lexicographers, as upon the soundness of the doctrines which these terms represent. In more than one respect, this is a very important question. After the exploration of that immense mass of concentrated agony, which has been drawn from the sawing, pinching, pricking, cutting, burning, electrifying, and galvanizing frogs and other animals—after travelling through the labyrinthian mazes of the Reflex Physiology and Pathology, the student at the denouement is compelled to say, as in "The Two Gentlemen of Verona,"

"How like a dream is this I see and hear!"

I could name one of the best works on Physiology, wherein the Reflex doctrine, in its various phases in the nervous and muscular systems, occupies *one-sixth* of the entire book, requiring more time and difficulty to get some notion of it, and then to unlearn it, than any other part of the work, as is usually the case, where the words are hard, the experiments equivocal, the doctrines incomprehensible.

The Medico-Chirurgical Review of 1836 designates the doctrines of Bell and Hall as "a burst of discovery as brilliant as it was unexpected," and at the same time explains the excitomotory or Reflex theory thus:—"If a stimulus be applied to a part supplied and regulated by the spinal nerves, the impression is conveyed by sentient nerves to the spinal axis, and the action consequent upon it is conveyed from the spinal axis by motor nerves to the original part. All this is, to a certain degree, independent of the brain."

This able periodical, whose distinguished editor, unfortunately for the cause of science, is now numbered with the dead, has for more than twenty years upheld this doctrine in all its phases—even the last number (Oct., 1845) proclaims it "as the foundation upon which all accurate knowledge must ever repose." The following extracts are from the same work:

"It is at length admitted on all hands that here (in the spinal cord) impressions do pass, and necessarily, from the afferent to the efferent fibres.' 'The impression (necessary to muscular motion) is conducted to the spinal marrow, is thence reflected, and again reaches either the part on which the impression took place, or some other part remote from it, where the muscular contractions now take place'—'*in an arched and reflected course, requiring that the connection with the spinal marrow be uninjured*'—'a throwing back of the nervous principle into the spinal marrow, without at the same time admitting a process similar to sensation.' This process is also compared to the '*reflection of light.*'"

To prevent mistakes as to the meaning of authors, it will be necessary to give their own words, as briefly as possible, on this topic. Dr. M. Hall, in his work on the *Nervous System*, says that he "divided the spinal marrow of a frog below the occiput—on pinching its toes with the forceps, the extremities moved," but "on destroying the spinal marrow with a probe, they were, on pinching, motionless." "The limbs of an

animal, or a part of an animal, separated from the influence of the cerebrum, become relaxed on destroying the spinal marrow." "On withdrawing gently the spinal marrow of a decapitated turtle, all motion ceased. The limbs were no longer obedient to stimuli, became perfectly flaccid, having lost all their resilience. The sphincter lost its circular form and contracted state, and became lax, flaccid, and shapeless." "*The presence of the Medulla Oblongata and Spinalis is necessary to the contractile function.*" "To irritate the spinal nerves will produce contractions the very type of tetanus, leaving no doubt of what particular part of the nervous system is affected in that disease." Finally, he concludes, that these "effects have not been hitherto suspected by Physiologists."

In an able and approbatory review of this work (American Jour. Med. Science, 1839), a summary of Dr. Hall's discovery is thus given: "five circumstances are required in every instance of an excito-motory act; an excitant; *an excitor nerve, continuous to the nervous centre; the integrity of that centre: a motor nerve, continuous to the muscle to be excited into contraction;* and that muscle to be endowed with perfect irritability. *If any part of the arc be interrupted, the phenomena cease instantly.*" "There can be no better test of the value of these views than the contest which has arisen, not with regard to their truth, but their originality"—"they have gained ground in despite of all opposition." "*All action is the result of stimuli to the nerves which proceed to the spinal marrow, pursuing a reflex course,*"—"*By two lines.*" Reflex, convex, complex, and perplexing routes these, for even Bell, Hall, Müller, Magendie, and both the *Academies Royales!*

The reviewer refers to a frog, a turtle, and a lobster experiment by Dr. H. To make an experiment under the tension of a preconceived theory, is, too often, but little better than the making of an experiment to order. According to the reflexians the destruction of any part of the cord affects the contractility of a corresponding part of the body and no more! This is what Mr. Canning called drawing on the imagination for facts.

In the Philosophical Transactions (1839), Dr. H. advances the same doctrine—"*That muscular contraction is reflex, curved,—requiring the connection with the medulla spinalis to be preserved entire.*"

In order to investigate this subject in a proper manner, that is rigorously and without bias, it is necessary to forget the great names which stand committed to the doctrine of Bell. Many years before his death he declared that "the reception of his discovery, concerning the different functions of the anterior and posterior roots of the nerves, was the reverse of what he expected, its early announcement having failed to draw one encouraging sentence from medical men." (Nerv. Syst., p. 10.) What a change! In January, 1845, when M. Castel presented to the Royal Academy of Medicine, at Paris, his work on the *nervous system*, purporting to be a refutation of this doctrine of Bell* (*Exposition des attributs du Système Nerveux, refutation de la doc-*

* M. Bosquet's review of this work in the *Gaz. Méd. de Paris*, might be best translated by a slight change in Pope's epitaph on Newton, thus:

"Nature and nature's laws lay hid in night."

God said, "Let Castel be!" and all was light: or as M. B. says, "*Sans lui, tout*

trine de Charles Bell, etc.), he was gravely charged with being the only member of that learned institution who denied this fundamental doctrine of neurology. Impartial history teaches us not to be surprised at anything which relates to the oscillations of medical theory. Dr. Marshall Hall, who has lately received the well-merited honor of membership in the Academy, is more fortunate than Bell, since he sees his reflex doctrine flourishing almost everywhere in insular and continental Europe.

However desirable it may be to avoid uttering common-place homilies on the nervous system, it is necessary to give, briefly as perspicuity will allow, the views of the most prominent writers on the subject under consideration.

The reflex school maintains, not only that the integrity of the spinal cord is indispensable to transmission, but that the division of the anterior roots is a complete barrier to muscular motion. This doctrine is not based on the healthy, living body. It is not, with a few obscure and unimportant exceptions, deduced from morbid conditions, but from the last agony, and more than all, from the recently dead state of the inferior animals—a kind of proof by no means satisfactory.

It should never be forgotten that experiments on the inferior animals, as frogs and turtles, are inconclusive in establishing the complicated physiology of man. An earth-worm may be cut into several pieces, each of which becomes a perfect animal. The more the *hydræ* are subdivided, the more is their number increased without loss of vitality. Could we deduce a vital or reflex theory from such experiments applicable to man? Were capital punishment changed from hanging to vivisection of the spinal marrow, this would but poorly illustrate the physiology of a healthy man, or the pathology of a sick one, yet one such experiment would be worth a thousand upon frogs.

I beg leave to offer an example, not perhaps the most striking, but the most convenient, taken from "Blackwood's Magazine," showing the vitality of the shark (reported in a work "*Fifty days on board a slave vessel, in* 1843," by the Rev. P. G. Grenfell, chaplain on board H.B.M. ship Cleopatra):—

"A shark followed the ship and was caught. When brought on deck he exhibited the usual and remarkable tenacity of life. Though the tail was chopped off and his entrails taken out, in neither of which operations it exhibited any signs of sensation, yet no sooner was a bucket of salt water poured on it to wash the deck, than it began to flounder about and bite on all sides."

Does man ever exhibit such vivid phenomena after evisceration?

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est obscurité, tout est confusion; avec lui, tout se dénoue, tout s'explique, et les ténèbres font place à la lumière." M. Castel delivers himself of his general doctrine thus, "*La myotilité exige un plus grand somme de puissance nerveuse que la sensibilité.* He maintains that the only difference between the anterior and posterior roots consists in the different degrees of consistence or density by which their conducting power is modified; that the anterior roots have more motor force, because they are denser, and, therefore, better galvanic conductors. Now without affirming or denying M. Castel's doctrine, I must protest against the principle of building one half physiology and pathology upon the conducting powers of zinc, copper, nerves and muscles. This superior conduction of the anterior roots may refute the doctrine of Bell, but still it leaves us in that *terra incognita* (or *terra nervosa*, it might be called), where Bell struggled all his life along the frontiers of galvanism and vitalism—where reason as well as electricity itself, cast an uncertain and bewildering light, and where an invisible barrier arrests the progress of the human faculties. In this nebulous realm, this Hades of physiology, the reflex magicians build their phantasmagorial system.

Hear Sir Charles Bell, in his great work on the nervous system :—

"Cold-blooded animals will live without the brain. Birds, whose heads were cut off, Le Gallois says, walked, seemed to feel pain, and moved their feet towards the part. Flourens goes further, since he says, that a bird deprived of the cerebral lobes dressed its feathers, and ran and leaped."—P. 25.

Such experiments, including many of the author's prickings and cuttings of the spinal marrow, can have no satisfactory application to man. The same may be said of M. Magendie's experiments.* He wishes to know the functions of certain nerves; he divides them at their origin, plunging a sharp instrument through both sides of the skull at the base of the brain, cutting up the cerebral matter, and perhaps several other nerves, in order to divide the fifth; nay, more, he removes both hemispheres of the brain from a duck. This animal, for eight days after, appeared to do very well, and as he assures us, possessed the sense of smell! Now the question is, does man exhibit such phenomena after the removal of the brain, or the division of its nerves within the cranium, or the dissection of the anterior and posterior roots of the spinal nerves? Truly, the reflex theory is well named (from, as I suppose, *reflecto*, to bend or bow back, to recurve). Its logic is angular, curved, or circular, as well as the experiments themselves!

I do not here wish to dwell on the equivocal results obtained from artificial tortures, and artificial diseased conditions of a denaturalizing character, so completely beyond the pale of normal physiology and pathology, and, withal, based, on experiments difficult to execute, and repulsive to the moral sense of the profession; experiments not likely to be verified for these reasons, though the obscurity of the subject would seem to require a proportional multiplicity of observations.

As illustrative of the nature of these experiments, I offer the testimony of an able champion of the reflex school :—"The experiments," says the editor of the 'Medico-Chirurgical Review,' "which have been devised and practised for ascertaining the functions of the nerves, are the most cruel that can be imagined, while the results thereby obtained have frequently been unconvincing or uncertain." This language, repeated from year to year, gathers strength in the last number of that journal (Oct., 1845), in which the editor denounces vivisections, and "protests," to use his own words, "against those barbarous experiments on living animals, the performance of which is so disgraceful, upon the whole, to the medical profession. And what good have they done?—literally none. We verily believe that there would have been much more rational views upon many disputed questions in physiology, if observation had been exclusively confined to noticing the natural and spontaneous phenomena of life in health and disease, and diligently examining after death the effects which disease leaves behind. Shall we believe that any conclusion worth knowing can be drawn from cutting a poor animal's heart out of its body? Away with such butcher-like philosophy!" Subtract these experiments from the reflex theory and little remains!

Without at all derogating from Sir Charles Bell's, or M. Magendie's, or Dr. Hall's claims as discoverers of the "anterior roots," and reflex theories built thereupon, it may be proper to add that Haller maintains the spinal theory of muscular contraction, which, he asserts is rendered impossible by the destruction of the spinal cord "(*First Lines*, ccccii.)."

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* English critics assign to this distinguished physiologist, the second seat of honor in this department of discovery.

Béclard says, "That the conditions of muscular action are, the life of the muscle and its communication with the circulatory and nervous centre, its integral state, and the action of an exciting or stimulating influence;" he adds, "That cadaveric rigidity never takes place so long as the muscles possess any galvanic irritability.—(*Gen. Anat.*) Hooper holds that, "To a certainty no muscular contraction can take place without the immediate action of the brain and nerves."—(*Dict. Méd.*) Sometimes he represents contractility as the fundamental property of vitality, and even as its cause. In a late and learned work on Physiological Anatomy and Physiology, by Messrs. Todd & Bowman, the reflex theory appears as a fundamental truth; "The antero-lateral columns of the cord, with the anterior and posterior forms of the grey matter, are the effective centres of motion and sensation to the trunk and extremities."

Sir Charles Bell sums up his researches upon this subject, by saying, "These opinions and experiments have been followed up to the satisfaction of all Europe. It has been acknowledged that the anterior roots of the spinal nerves bestow the power of muscular motion and the posterior sensibility."—(*Anat.*) A discovery which Dr. M. Hall designates "as the most splendid in physiology within the last century."—(*Diag.*)

Professor Carpenter, of England (who considers the spinal marrow as not only independent of the brain, but as frequently opposed to it in action), when speaking of the biceps muscle, says, "That the only way to excite the whole muscle into contraction at once, is to stimulate it through its nerves."—(*Phys.*) Many other authors flatly deny the possibility of exciting contractions when the nerves leading to the muscles in the recently dead body are divided. "The power of determining individual muscular action involves of necessity the agency of insulated, that is, independent conductors."—(*Med. Chir. Rev., Oct.*, 1845.)

Before entering upon the validity of these assumptions it may be proper to state that the circle of the reflex function is rapidly extending from the spinal marrow to the brain, where the phrenologists find it very useful in explaining the developments. Geo. Combe, Esq., infers, "that from the anterior lobes of the brain, the seat of the intellectual faculties, there must be medullary fibres communicating with the motor portion of the spinal cord." Professor Reid, after saying "that the true excito-motory movements do not require the presence of the cerebrum for their manifestation," adds, "All modern physiologists agree that when emotions are excited in the mind, a reflex and motive influence is sent downwards along the motiferous column, and along the motor nerves, to the muscles thrown into contraction." Dr. Laycock carries the reflex doctrine further, and to make it the basis of all mental science, "All incident excitor impressions have to complete a circle through the central ganglia of the cerebro-spinal axis,"—"exciting ideagenic and kientic substrata, and the organs of intellect, and the desire for medical skill and other phenomena of reason and volition; the deepest feelings of religion, patriotism and honor; the love and pursuit of truth; the avoidance of evil, and all moral incentives to actions whatsoever,"—"which have substrata upon which incident excitor impressions impinge, and from which motor impulses may be derived. The impulse in traversing the ideagenic substrata changes the other substrata, in a series; sensations and ideas arise, and new substrata are formed; psychical substrata are formed according to the division of the grey matter. The energy of the muscu-

lar act, will depend upon the excitability of the grey matter at the point of reflex cerebral action and upon the extent of affinities between the impinging impression and the recipient substrata. The size and motor force of an organ will be in proportion to the number and strength or quality of its ideagenic substrata." Dr. L. speaks of these strata as being dislocated!—(*Vide Lond. Lancet, Aug.*, 1845.) The language, the doctrines, and the complex apparatus concerned in this reflex explanation, are alike incomprehensible and suspicious.

This jargon daily increases, though, as yet, it is chiefly endemic to Europe.* Everything is becoming reflex, not excepting generation! We read of reflex nutrition, reflex development, reflex remedies; strychnia travels along the motoriferous tract, while morphia takes up the line of march along the sensiferous. This great double railway the phrenologists, as above-mentioned, have ably extended to the encephalon, where it would seem the terminus is to be located, among the psychical strata and substrata. In plain English, the brain, composed as it is of albumen, phosphorus, water, &c., becomes afferent, efferent, reflex, and if need be, perhaps, circular too.

Not content that the anterior roots shall preside over motion and the posterior over sensation, according to Bell and Magendie; not content with Dr. Hall's addition, which is supposed to explain these functions, the advocates of this doctrine threaten to absorb much of physiology and pathology, together with the whole of mental science. Dr. Laycock says (*London Lancet, Sept.*, 1845), no mental phenomena whatever are exempt from the laws of reflex action. By the term psychical substratum, I mean a material substratum—a definite arrangement of matter, &c.; contractility "in a decapitated frog" (The frog! the frog!) "is excited by a substratum in the spinal ganglia." To dwell in this region of mental geology, among the "*psychical strata possessing a definite material arrangement*" (mark it! the mind material! indefinite strata, like the coats of an onion!) is foreign to our present purpose.

The theory of muscular contractility connects itself with sundry vital, chemical, and electrical speculations, which, if not more justly founded, possess a wider range than the anterior roots of the spinal column. Bichât, like Abernethy, refers contractility to life alone; to have life is the only condition necessary to muscular contraction, which latter is the effect of an active vitality.—(*Researches on Life and Death.*) Professor Draper, of New York, in his beautiful work on the chemistry of plants, denies a vital force *per se*, while Broussais regards contractility as a fundamental property of life, if not life itself; even sensibility is, according to him, one of the results of contractile movements.—(*Path.*, 104 and 64.) Professor Harrison, of New Orleans, explains muscular motion and life also, as chemical actions: "From some unknown combination of circumstances that occurred in lost geological eras, carbon united with water, organic matter was formed from inorganic, and life commenced."—(*Nerv. Syst.*, p. 200.) It will be seen in the sequel, whether non-vital and chemical theories will explain all.

The electric theory of life and contractility has, in a great degree, overshadowed all others. Professor H. M. Edwards, says, "Electric cur-

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* Dr. Gregory, in his beautiful Introductory Lecture (Oct. 1, 1845—*Med. Times*), says, "The functions of the nervous system, direct and reflex, are now slowly developing themselves."

rents act upon the muscles in the same manner as the nervous influence, and which it plausibly explains."—(*Anat. and Phys.*) Indeed, Dr. W. Philip says these fluids are identical, while M. Matteucci, in his late prize essay on this subject, wholly denies the existence of these electric fluids or currents in the nerves, and maintains that all electrical actions in the body, are not the causes but effects of vital changes. According to M. De Manneville (*Précis, etc.*), and Dr. Searle (*London Lancet*), life is but the sum of electricity. Dr. S. Dickson, of London, asserts, that "Life is electricity in its highest sense, it produces all the changes in the living body, the brain and nervous system being the electric apparatus; the nerves, the moving powers. A remedy is a repulsive or attractive force, and acts by an electric vital affinity solely." But, according to him, "*Medicina non agit in cadaver.*" "Bark is a motive power." It might be urged that the motive power in post-mortem contractility is quicker than bark, and slower than electricity.

Haller was aware of the influence of the spinal cord of certain animals over the muscles, when under galvanic excitation, or when pricked with a sharp knife, though he does not refer to the posterior roots.—(*Phys.*, cccciii.)

I know not that the spinal marrow in the human subject has ever been tested in the living state, by pricking or scratching; and, as to exciting contractions in this manner in the dead body, *credat Judæus!* In the examination of the spinal cord of many subjects, only a few minutes after death, not a case of contraction was seen, though, in the ordinary method of cutting, chiselling, and sawing on each side of the spinous processes of the vertebræ, all the roots of the spinal nerves, as they escape from the bony canal, must be irritated in every possible way by pricking, scratching, bruising, pinching and dividing. Haller, and, I believe, all the electricians who have since his day experimented on this matter, constantly speak of convulsions being produced in the muscles. Now, a quivering, oscillating, agitated, irregular, or convulsed motion, is very different from regular intermitting extensions, pronations, supinations, which, in truth, simulate voluntary movements; of which we will say more hereafter.

The "Medico-Chirurgical Review" gives the following account of the recent experiments of MM. Longet and Matteucci, who describe the effects of electricity on the posterior or sensitive roots of the spinal cord:—

> "When these were separated from the cord, no contractions were excited by the electrical current, whatever its direction. But when they were still adherent to the medulla, they always gave rise to convulsive shocks on closure of the circuit, whether the current was inverse or direct. It was evident, however, that these convulsions were owing entirely to a reflex action on the anterior roots; for, when the latter were cut across, all contractions instantly ceased. An interesting point, which their researches have elucidated, is the function of the anterior columns of the spinal cord, which are shown to possess an exclusively motor function."

I find, on referring to the transactions of the Academy, that M. Matteucci's paper on "Galvanic muscular currents" (*sur les courans galvaniques musculaires*), is founded on observations upon frogs continued from day to day for five months. These frogs were all taken from the same pond; some were killed to ascertain the contractile function—(*pour en*

mesurer le courant musculaire); others were exposed to different temperatures and gases. His grand conclusion from the whole is, that the muscular current is proportioned to the activity of the respiration! At best, this is only a piece of frog physiology, that may not have anything to do with human physiology. Nothing in the history of fashion can be more extraordinary than the *penchant* of physiologists for that ugly, amphibious animal, the frog, so unlike man in its structure, respiration, circulation, temperature, and maladies; yet it seems to be the type for all things concerning human beings, not excepting inflammation and muscular contraction. Why not include gout, consumption, cholera, and mesmerism? The sacred Ibis was never so honored by the Egyptians as is this ranine amphibium, by the *savans* of our day. As this great idol of experimenters is capable of living at the bottom of a frozen pond or lake during half the year, and may be skinned, nay, decapitated without losing the power of locomotion for a considerable time; it must be admitted that its vital versatility is well adapted to prove almost anything, especially when aided by a few assumptions and manipulations of a galvano-neurological character!

The sequel will show the infinite superiority of the motor power of a slight blow with the operator's hand, compared with all this mummery of electrical batteries, with the anterior roots of the spinal marrow of the dead and dying frogs. Will any candid man pretend that the convulsions excited among the muscles by such an overpowering agent as electricity, which shivers in an instant the mightiest oak of the forest, are at all like those repeated, intermitting, deliberate, lifelike flexions, extensions, pronations, and supinations, not complicated with horrible vivisections as described in the following pages? Is it warrantable, is it praiseworthy to resort to the very worst kind of proof in preference to the very best, to complicate that which is simple, and to reason reflexively instead of directly?

Bichât could not excite contractions of the heart, nor of the other organs of organic life, by electricity, though he experimented upon criminals freshly decapitated, the most favorable subjects imaginable! In subjects but a few minutes dead from fevers and other maladies, blows, pressure, scratches, and pricks, are equally powerless in exciting these very organs, which, in the language of Haller, "are exceedingly tenacious of their *vis insita*" (ccccii.). Where is the proof that galvanic electricity has ever caused the regular systole and diastole of the heart, or the peristaltic movements of the intestines, even in the inferior animals simulating physiological action? Far from being identical with, is it not opposed to life? The heart of some of the inferior animals when removed from the body acts somewhat in its physiological character as an involuntary muscle for a long period, without a galvanic battery, and without "acrimonious" agents, as Haller would say, blood, water, or air alone being necessary.

Passing by John Hunter's assertion, "that the muscle can as little relax as it can contract after death," we come again to the *vis insita* of the illustrious Haller; an assumption or hypothesis which the researches of nearly a century have not surpassed for ingenuity. "The *vis insita* is," according to him, "peculiar to life, and the first few hours after death (*First Lines Phys.*, cccc.); it may be excited (it is Haller who speaks) by a sharp instrument, and in the hollow muscles by air, water, and every kind of acrimony, but most powerfully by electricity;

it is peculiarly active in the heart, stomach, and bowels."—(ccccii.) It is, I repeat, not a little remarkable, that these are the very organs in which Bichât never could excite any motion whatever by galvanic electricity. During the Reign of Terror the guillotined were delivered to him by the authorities, in from 30 to 40 minutes after execution; yet he declares that in some every kind of mobility was extinct, and that in none could the organs of organic life be excited. He, therefore, concludes, "that with respect to galvanic phenomena, as in all others, there is a wide difference between the muscles of animal and those of organic life."—(*Res. on Life and Death.*) A conclusion which all my experiments in percussion seem to confirm. In the human subject, I have, frequently, in a few minutes after death, compressed the heart *in situ* with the hand for a moment, and then relaxing and compressing alternately, but always without producing any motions analogous to that concerned in the circulation. I do not consider that the salient but delicate ridge or elevation in the tract of a scratch or prick as possessing this character. This view is deemed very important. The muscular fibres of the heart belong, in this respect, to the muscles of animal life, a distinction that has not been adverted to even by Bichât, nor others, so far as I recollect. The heart, in its great leading function as a muscle of organic life, cannot, strictly speaking, so far as I have seen, be made to contract by a blow or a prick, though I cannot speak of frogs. When the wavy line which rises from a scratch is called a contraction of the heart, the reader is almost sure to receive a wrong impression. The "signal experiment made with the scratch of a needle in the heart by Dr. Fordyce," quoted by Dr. Dunglison, in his valuable work on physiology, should be understood as causing contractions of the muscular tissue at the point of contact only. In this case, however, the meaning is scarcely ambiguous.

Haller's experiments, without doubt, were made on the inferior animals; Bichât's were made on man; so were mine. In many robust individuals, opened in less than half the time after death designated by Bichât, I have never seen a fact which in the remotest degree confirmed Haller's doctrine, namely, that the *vis insita* is peculiarly active in the heart, stomach and bowels. In not a few of these subjects, I have the best reason for supposing that the capillary circulation was still active. The functional contractility of the human heart, the *vis insita* of Haller, is believed to be visionary in the cadaver, though this organ is susceptible to the contraction which I have described.

Whether these experiments be of any value or not, I trust that candid men will not estimate them the less when I say that they were made, not to order, but rather incidentally, while engaged in pathological inquiries which occupied my attention almost entirely. For nearly two years after I first noticed post-mortem muscular contractility, I seldom thought of its special application to the reflex theory. I viewed it as a curious, and, so far as I knew, an original observation. During an attempt to produce contusions on the recently dead body, I happened to select a spot over the middle of the biceps; a blow there (the arm having been extended on the floor) caused the subject to slap his hand against his face with much force. I was almost as much surprised as was a black man that I hired to aid me in a private dissection, in St. John the Baptist street, in 1842, of the body of a gentleman of much travel, who died of remittent fever. Previous to this dissection, which

was two hours after death, I struck the arm with the inferior edge of my extended hand. The subject contracted his arm, carrying his hand to his breast. My aid looked to the door, which had been closed beforehand, and begged to be let out without delay.

It was, therefore, very recently that I began to regard contraction thus excited in its most elementary character, as an important point of departure in the analysis of some of the most interesting problems in physiology,&c. It cannot be repeated too often, that the simplicity of a method is a great recommendation, while complexity gives rise to suspicion when an explanation is offered, and at the same time, increases the chances of error. Professor Liebig has said with much force, that "if a method of investigation bear in any degree the stamp of perfection, the result may always be given in a few words; but these few words are eternal truths."

I take for granted, until the contrary is established by experiment, that the reader will admit as true the facts set forth in this monograph. It may be asked, however, whether these facts are new? I know that certain men declare that there is nothing new in medical science. Let such read Jeremy Bentham.*

What does Sir Charles Bell say of the muscular motions which he excited, and upon which, he, more than on anything else, founds his great discovery—if such it be? I say nothing of the kind of animals upon which he experimented; nothing about his knocking them half dead by blows on the occiput; nothing of the complex and uncertain character of a dissection of the spinal cord of an animal which might have been dead or alive, for aught we know. His own account shows what kind of contractions his experiments produced. In his work on the nervous system, he quotes with approval, M. C. Hawkins's account of these experiments, "which," as he says, "show that when the anterior roots were pinched by the forceps, or pricked by the scissors, an evident motion was produced, perceptible to the eye;" he even goes on to insist that this was something more than "the slight tremulous motion from the natural irritability still remaining in the muscles." It is most evident that he never dreamt of regular, periodical flexions and extensions of entire limbs loaded down with heavy weights. His *experimentum crucis* on the motor

* "Wisdom of ancestors," says Bentham, "is a Chinese argument. The reigning prejudice in favor of the dead lies not very deep—a dead man has no rivals—to nobody is he an object of envy,—in whosesoever way he may have stood when living, when dead he no longer stands in anybody's way. If he was a man of genius, those who denied him any merit during his life, even his very enemies, changing their tune all at once, assume an air of justice and kindness which costs them nothing, and enables them under pretence of respect for the dead to gratify malignity to the living. Another class habitually exalts the past for the purpose of depressing and discouraging the present generation." "You may turn over whole volumes of antiquity without discovering a solitary truth to make amends for your pains. For ten propositions evidently false, and ten times the number of unintelligible ones, you will scarcely find a single one that is true. A preference for the ancients is a most pernicious prejudice, reversing the whole order of nature. The acorn must be larger than the oak it will become. A man must be wiser in his mother's womb, than in the vigor of manhood. Everything must grow backwards. New experiments added to the subsisting stock must lessen the number. It is scarcely possible to believe a man to stand *bonâ fide* on so noxious a system. If he do, grieve over him, but treat him as an enemy to knowledge and to that happiness which is founded upon knowledge. The public interests require that his notions rise not into credit."—*Bentham's Book of Fallacies; Deontology.*

roots caused a motion "merely perceptible to the eye." This was the *ne plus ultra* of *that muscular contraction* which he could excite by pricking and pinching, under circumstances presenting the maximum of uncertainty.*

Has muscular contraction, by the percussional method, ever been pointed out by authors? Have they noted contractions without any shortening of the muscle, though accompanied with an enormous augmentation of volume and density at the points of contact? Have they ascertained, fixed, and made known the laws of muscular action, as developed by this most definite and simple of all methods, divested as it is of volition and all psychological phenomena? Have they described a case of complete motion of the whole limb, not only including flexion, but extension, pronation, supination,—in a word, all the elementary, physiological actions, simulating the voluntary movements, though less varied and more slow; but, more than all, have they illustrated the great law of contractile periodicity, excited *per se*, in a manner very different from the unmeaning convulsions of electrical action,—from the unmeaning action of a "scratch or prick with a sharp instrument?"—I say unmeaning, because no definite actions are produced resembling those called physiological. The use of the phrase "sharp instrument," from Haller's time to the present, speaks volumes in favor of my position,—for a dull instrument, as a shingle, cane, the flat side of a hatchet, or the operator's hand, is infinitely better, because it moves the entire limb, whereas, a scratch causes nothing of the kind, giving rise to nothing but a delicate ridge or line, like a thread, in any direction across a muscle, diagonally, triangularly, or in curves, as the case may be.

It is not, then, the silence of authors upon which the greatest reliance is to be placed, in claiming for this method of investigating muscular contraction, something of originality. All writers, so far as recollected, especially writers on Medical Jurisprudence, in treating of the signs of the certainty of death, rely much on muscular contraction, or as I should say, on its absence, as the most indubitable sort of proof. During the present year, M. Cadet De Grassicourt, a French writer, proposed, as the best method of ascertaining the reality of the supposed death, to dissect down to the muscles and prick them—a common recommendation in such cases,—"As if a man be dissected to see what part was disaffected," and this, perhaps, during his lifetime! (I regret that I cannot stop here to examine into the fallacy of this TEST, which would go to prove the absence of real death, or the possibility of resuscitation after

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* Few foreign authors have been so much venerated among Americans as C. Bell, though this *discovery*, so called, contributed little to this end; so of Dr. Hall. To speak of one so estimable as Bell, who has instructed and delighted us all, in any other way than than that of eulogy, may not be without some risk of giving offence now that he is numbered with the dead, while his doctrine on which he spent much of his life is in the ascendant. In a communication in the "Med. Chir Rev.," Jan., 1834, relating to M. Müller's experiments, confirmatory of Sir Charles' discovery, he even labors to depreciate experiments, and prefers "to build on *anatomy*"—prefers "the *vital powers* to the *galvanic* conducting powers of the nerve." Now, all this may be very true, but is very fatal to his own experiments, since mere anatomy explains nothing of the supposed functions of the roots, anterior or posterior. It is not so surpristng that this doctrine, so founded, "was not received," as he himself assures us, "with some show of interest." Its present success is still more puzzling.

the removal of the brain, spinal marrow, the viscera of the chest and abdomen, and the amputation of the limbs, at from six to eight or fourteen hours after death!) Now, as percussion is the only perfect and safe method of exciting contractions, I cannot suppose that there is a single medical man, who, knowing this, would lay bare, by a surgical operation, the muscles of a person supposed to be possibly alive, in order to apply a test of little or no value, when one of the greatest value could be commanded by a simple blow of the inferior edge of the operator's extended hand, insufficient in force to injure a living person. Here, as in law, the rule should be that the best evidence ought to be procured.

During the last ten years, many French authors, candidates for the prize founded by Professor Manni, of the University of Rome, to be awarded by the French Academy of Sciences, have written ably upon the signs of apparent and absolute death, with a view to prevent premature interment, etc. In this question, which is still open and undecided, much importance is constantly attached to contractility, or rather to its absence, requiring a dissection in order to expose the muscles for this test! It is, in fact, a fundamental point which is made paramount to all other signs of death anterior to putrefaction. The celebrated "Nysten recommends this as a certain criterion of death—to lay bare the muscle and prick it, or apply the galvanic or electric fluid." (*Prof. Guy's Med. Juris., by Prof. Lee*, 1845, p. 372, *et seq.**) These, though negative proofs, are nevertheless sufficient to show that the method I have adopted to excite muscular contraction is wholly unknown, or absurdly rejected. Why should a very simple matter (I ask once more) be thus complicated by galvanic experiments, dissections, and reflex logic, seeing that a blow direct with the hand will produce results more definite, more like the acts of vitality and volition? If an arm, from six to fourteen hours after death—hours after the dissection of the body, and after being severed from the trunk at the shoulder-joint, contract with the utmost precision, how can gentlemen say "that the anterior columns of the spinal cord possess an exclusive motor function"? Whatever agency these roots may have when galvanized, they are incomparably inferior to the motor power of the muscle when excited by the hand, the hatchet, or a cane. A hand, or a hatchet, or a cane-theory, ought to have the preference over the reflex theory, as the former is not only the most simple, but the most scientific, affording a nearer approximation to the known physiological functions of man. Of this, the sequel will afford evidence—evidence which was scarcely sought for, but which came of itself, incidentally—evidence, simple, plain, and direct, and not obtained under the tension of any theory whatever.

My experiments, though very numerous, might have been multiplied threefold; they are already sufficiently unwieldy, and do not easily admit of analysis. I will, therefore, give a few cases taken almost at random, as found among several thousand folio MS. pages, nearly all being yellow fever subjects, which are incomparably the best for study-

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* This work contains an enumeration of the signs of death, which, with the other topics treated of, are more clearly and compendiously stated, than in any work I have seen from the foreign press. Dr. T. E. Beatty (*Cyc. Prac. Med.*) maintains that "Galvanism is the best test of the reality of death; for, if the muscular fibre do not obey it, there can be no doubt that vitality is extinguished." Galvanic contraction is no proof of the presence of life, or of the possibility of resuscitation.

ing post-mortem contractility. It is more than probable that my most striking cases are omitted, as, at the time of making the observations, I did not fully appreciate their importance. I have omitted all cases not particularly described, that is, such as were mentioned in such general terms, as "*contractile*," "*contraction active*," "*strong contractility*," &c. This I now regret, as well as the omission of many experiments which I could name, but most of all, such as might illustrate the almost incredible doctrine of counter-contraction, which, in despite of my notes, I would like to reconfirm upon a larger scale.

Miscellaneous cases illustrative of the general phenomena of post-mortem Contractility :—

Case I.—O. D., an Englishman, aged 26. From fifteen minutes to several hours after death, raised his fore-arm to the perpendicular as often as its flexors were struck; the motion was slow, the ratio of contraction and relaxation appeared uniform, occupying about half a minute.

Case II.—E. M., an Englishman, aged 37. At thirty minutes after death, afforded similar results. The experiments were often repeated, at prolonged periods; the contractions and relaxations were supposed to occupy about 30 seconds each. The flexion ceased at the perpendicular in every instance. When the experiments ceased, the muscular force continued at its maximum, having lost nothing.

Case III.—O. S., an Englishman, aged 27. Like the last.

Case IV.—W. O., an Englishman, aged 27. Dead five hours; neck moderately stiff; brain, 93°; epigastrium, 100°; chest, 93°; thigh, 99°. The arms strongly contractile, but the motion was slow and uniform, requiring several seconds to produce flexion and relaxation.

Case V.—H. O., a German, aged 32. Presented one hour after death active muscular contractions of the arms, which soon disappeared after a few blows, the neck being stiff; other parts flexible.

Case VI.—J. Q., a German, aged 24. Fifteen minutes to one hour after death, everywhere flexible; powerful muscular contractions; the neck became stiff; the legs and arms soon after.

Case VII.—S. G., a New Yorker, aged 22. Precisely like the last case.

Case VIII.—J. M., a Virginian, aged 31. Like the last.

Case IX.—J. R., a Marylander, aged 25. Was observed for one hour after death, during which time the biceps at intervals contracted vigorously.

Case X.—D. H., a German, aged 22. For more than an hour after death, carried his hand to his nipple as often as the extensors were struck—the jaws being rigid; 109° to 106°, for two hours.

Case XI.—Miss S., aged 26. An hour after death presented slight rigidity of the arm; one was extended; a blow caused it to rise quickly to the perpendicular, from which it slowly returned, requiring many seconds, perhaps a minute or two. Three similar operations destroyed the contractility. The fingers soon became stiff, then the arms, next the legs, but the neck was limber for three hours. The heat generally 107°, descended in the axilla, at four hours after death, to 103½°.

Case XII.—F. L., a Frenchman, aged 58. Dead about one hour; heat 107½° to 103°; possessed the contractile function strongly, carry-

ing the hand to the breast; also performing pronation and supination according to the percussion. The abdominal muscles were rigid.

Case XIII.—This subject had been dead two hours; he lifted his arm quickly and often, several feet from the table, sometimes striking himself in the face with force.

Case XIV.—J. A., an Irishman, aged 39. Dead three to four hours; heat 107° to 103°; neck very rigid; arms highly contractile.

Case XV.—J. G., a Baltimorean, aged 24. An hour after death, like the last; 108°.

Case XVI.—J. P., a Scotchman, aged 22. Dead one hour and a half; raised his fore-arm perpendicularly twice.

Case XVII.—R. C., a Kentuckian, aged 25. In two hours after death, when the arm was extended to an angle of 45° from the trunk, and was struck with my hand, or still better, with the side of the hatchet, carried his hand to his epigastrium; but when the arm was extended upon the floor, so as to form a right angle with the body, he slapped himself upon the mouth and nose. The contractility began to decline in the third hour, and by the fourth hour all motions of the limbs ceased, though the pectoral muscles assumed the ridgy or lumpy form when percussed. An hour after death the thigh was moderately contractile. The leg hung down near the floor; its flexors, after being struck, drew up the heel against the buttock. Heat for seven hours, from 111° to 102°. Five hours after death contractility ceased, and rigidity prevailed.

Case XVIII.—J. H., a Virginian, aged 30. Bled enormously, and cupped much; dead a few minutes; had contractility less than a quarter of an hour; dragged a hatchet along the floor, not being able to raise it. The heat, which was usually low, continued as long as observed, that is one hour and a quarter, without varying materially, not exceeding 102½°.

Case XIX.—N. E., an Italian, aged 25. Dead about one hour; heat 107° to 106°; recti muscles had contracted into indurated masses like knots of wood; neck rigid; the arm raised a weight, say 2 to 3lbs. fastened in the palm, carrying the hand to the umbilicus several times.

Case XX.—*Remittent.*—Mr. S., aged 45. Dead two hours; legs becoming rigid; struck the flexors of the arm with the inferior edge of my hand; the cadaver raised his arm with a regular, slow movement, placing his hand upon his breast: as soon as the muscles relaxed, he carried his arm back, extending the same. The experiment was repeated three or four times, when the arm fell back exhausted. The blows were now made with a piece of wood. The biceps gathered up into a lump, at the place where the blow was given, but failed to move the fore-arm.

Without attempting to give all the details of post-mortem contractility, it may be necessary to enumerate a few of its leading features.

Béclard asserts that the most remarkable and best established fact in the muscular action is, the shortening of the muscle during contraction; that its swelling is caused by its shortening, each compensating the other mutually.—*Gen. Anat.*

It is natural to every muscle, says Haller, to shorten itself, by retracting its extremities towards its belly or middle; when in action, becoming shorter and thicker (cccci.). Whether this doctrine be true of galvanic muscular contraction, I do not know, but I am certain that it does not apply to post-mortem contraction,—because it often happens that both

the fore-arm and elbow-joint are stiff and immovable, while the biceps may be powerfully contractile, its belly swelling up into a hard lump; relaxing and contracting repeatedly, and unavailingly, owing to the rigidity at and below its insertion in the arm. Here, it is evident that the indurated swelling is not owing to the approximation of the two extremities of the muscle, for they are fixed. The increase of volume seems to be owing to an expansion with rigidity among its elementary fibres; a zigzag oscillatory motion upon the summits of the contracting masses is visible to the naked eye. Much evidence might be produced besides the following:

Cases of Post-Mortem Muscular Contraction without shortening in yellow fever Subjects.

Case XXI.—H. F., a German, aged 28. Dead four hours, and dissected. The fingers and toes flexed and rigid; the biceps and gastrocnemius contracted, but without causing motions, as the limbs were rigid at their extremities.

Case XXII.—R. P., an Irishman, aged 24. Dead ten hours; fore-arm rigid; the biceps contracted strongly, but the rigidity in and below the elbow-joint prevented flexion. Blows with the knuckles over the pectoral muscles caused them to heave up into knotty masses.

Sometimes, post-mortem *rigidity sets in during the paroxysm of contraction*, producing a very singular phenomenon, a hard mass, which, continuing for hours, feels like bone. I have known this to be mistaken for a fracture badly set, or for a bony tumor.

Case XXIII.—J. C., an Irishman, aged 26. From one to three hours after death, the arms performed complete flexions and extensions; heat from 109° to 102°; six hours after death, the arms could not be extended without cutting the muscles, which were indurated and elevated at the site of the blows, having assumed the same arrangement as at the maximum of contraction.

Cases illustrative of the Increase, Declination, and subsequent Resuscitation of Post-Mortem Contractility; all being yellow fever except the last.

Case XXIV.—From four to five hours after death, and two hours after dissection, and the removal of the entire viscera, the *cadaver* being warm and rigid, great force was found necessary to extend the arm to a right angle with the body—extensions, flexions, and frictions were used, after which, a blow caused the fore-arm to rise until the hand pointed to the zenith; the motion was slow and equable; a second blow caused a slight motion without elevating the arm.

Case XXV.—A. G. G., a New Yorker, aged 30. In a few minutes after death, presented but feeble contractions, which, in half an hour ceased for a time. But soon after the contractile function returned to the same arm with much force, but after repeated blows it was exhausted a second time. Again, after a similar interval, it returned with a like force a third time. In three hours the rigidity, beginning in the neck, extended itself to most parts of the *cadaver*. The blows were found to have caused well-marked contusions, cellular ecchymoses, &c.

Case XXVI.—C. L., an Irishman, aged 31. Was observed from five minutes to an hour after death; the contractility was found to be active, but after appending a weight of 2 to 3 lbs. to the hand, the arm

was unable to raise the weight more than twice; a third blow caused the biceps to be convulsed; it gathered up in a knotty heap, which, by forcible extensions and frictions, was, at length, removed temporarily, but in half an hour it returned, and was unchanged as long as observed, being to the touch like a bony tumor.

Case XXVII.—C. S., a German, aged 50. Observations from fifteen minutes to two hours after death; heat from 109° to 102°; the contractility, though strong, was extinguished in the right arm by five or six blows. The left arm, about two hours after, was somewhat rigid, but frictions and extensions caused the contractile function to revive again.

Fracture of the Leg—Gangrene—Death.

Case XXVIII.—J. A., a German, aged 33. Dead two and a half hours; winter, room 54½°; a single blow with the flat side of the hatchet produced flexion, but exhausted the contractile force for half an hour, when it slightly returned. The supinators and pronators acted for an hour longer than the flexors of the arm; the experiments ending five hours after death.

The Destruction of the Contractile Function in one arm does not affect the other; this rule has no exceptions, and is illustrated in the following Yellow Fever Cadaver:

Case XXIX.—S. F., a Cincinnatian, aged 24. Dead half an hour when the experiments began. The right arm was struck with the flat side of the hatchet, the hand was carried to the ear; the second time to the mammary region; a third to the perpendicular; a fourth caused but a slight motion, and two more, more severely laid on, completely killed the contractility, leaving the print of the instrument as upon dough. In an hour after, the left arm was found to be contractile as the right had been, if not more so. The thigh, two hours after death, and an hour after the removal of the viscera, gave nearly 107. Other cases illustrative of this point are deemed superfluous.

If several blows on the same spot follow each other rapidly, there is but one contraction, but they exhaust the contractile function more than a single blow; if the force be greatly augmented, the contractility may be killed, almost immediately, in the muscle struck, without impairing the action of any other part.

This force has no resemblance to that purely physical property of bodies, called elasticity. A man may stand on the hand of the cadaver while the blow is being made on the biceps; let him then step off the hand, and the contraction will follow as usual. If the power be feeble, the relaxation will be quick in most cases; the arm will fall back upon the plane from all points short of the perpendicular, each elevation being less than the preceding one, until the force is expended. Should the hand pass its meridian, gravitation will of course aid the contraction in bringing it to the trunk.

The blood has no appreciable influence upon post-mortem contractility, because when the limb is severed from the trunk and drained of its blood, its action is not thereby diminished. Hence the following statement by Sir Charles Bell in his work on the hand requires, at least in the dead subject, some modification:—

"The muscular tissue has a living endowment, a power of contraction and relaxation, which is supplied by the circulation of the blood, the source of all vital power."

In some instances, as in the following, great losses of blood before death were not preventive of the most intense post-mortem contractions.

Much Ante-mortem Hemorrhage, moderate Post-mortem Caloricity, with powerful Contractions :—

Case XXX.—M. D., a female, aged 30. Dead half an hour; had an enormous sub-mammary effusion of blood, forming a bed two feet in circumference, amounting to several pounds; the fore-arm was raised, and the hand brought to the umbilical region after each blow; in three hours slight rigidity was noticed in the neck; in five hours, when burial took place, every joint not included in the neck, was perfectly flexible. The axilla and vagina did not range above 100°.

The difficulty, perhaps I should say impossibility, of showing any exact and necessary connexions between cadaveric contraction, flexibility, and temperature, will be best illustrated by giving an outline of a few cases. It will be seen that contractility may be present where the heat is, at least, very moderate, and where it is greatest for seven hours after death, that rigidity may take place much in advance of the maximum heat. Rigidity is at first local, often irregular, and sometimes absent as long as looked for, and may possibly never take place, as I might more fully show were it necessary. Contractility may take place during the rise or fall of the temperature, indifferently and in one region, while rigidity may prevail in another, and is sometimes absent in cases where great heat and flexibility are present.

The following are Cases illustrative of Contractility in connection with Post-mortem Calorification and Partial Rigidity; the maximum and minimum temperatures being included :—

Case XXXI.—J. K., a Philadelphian, aged 25. In fifteen minutes after death presented the contractile phenomena in its most intense form, but which declined wholly in one hour, the body being everywhere flexible. In half an hour after rigidity set in. This body, which before death had been remarkably cold, had a temperature after death as high as 109°, and which did not refrigerate below 104° in three hours after.

Case XXXII.—L. S., a Swede, aged 48. In three hours after death was rigid in his legs, neck and jaws. The arms had lost nearly all contractility, while the axilla and perineum, each, gave 109°; at five and a half hours the heat was still 103°, long after rigidity had become general.

Case XXXIII.—J. H., an Irishman, aged 36. Of gigantic frame, estimated at 200 lbs.; in fifteen minutes after death the neck, jaws, and recti muscles were immovably fixed—the contractility of the arm being very powerful. In an hour and ten minutes the rigidity became universal, the thigh being at 107°. In one and a half hours the epigastrium was at 106½°, and the brain 101°.

Case XXXIV.—S. G., a New Yorker, aged 22. In fifteen minutes after death, presented contractility in its most active form; the entire

body being flexible, but soon after the neck became stiff, then the legs, arms, &c. The temperature in the axilla and thigh exceeded 107° ; in an hour and a half it was nearly the same: in three hours the thigh was 100°.

Case XXXV.—J. Q., a German, aged 24. In three fourths of an hour after death was universally flexible, and contractility was powerful, temperature 109° ; in an hour rigidity took place. In two and a half hours the heat was nearly 107°.

Cases without contractility, showing the temperature to be high with or without flexibility.

Case XXXVI.—J. S., a German, aged 29. One hour after death, rigid in the neck and legs, moderately so in the arms ; axilla, chest and epigastrium, each 107°, thigh 104° ; in about four hours universal rigidity, thigh 105°.

Case XXXVII.—C. B., a New Yorker, aged 23. In one hour after death, neck rigid, legs and arms moderately so ; universal rigidity in two hours ; the thigh did not reach its maximum, 104°, until sixteen minutes after.

Case XXXVIII.—M. H., a German, aged 32. In about fifteen minutes after death was everywhere flexible ; in half an hour the limbs, which were without contractility, became stiff, the thigh being nearly 107° ; two hours later the latter was 106°.

Case XXXIX.—G. L., a German. At two hours after death had flexibility of the neck and rigidity of the limbs and recti muscles, with a heat of 104° ; in four hours the body, excepting the neck, was very rigid, the heat being only one degree less in the centre.

Case XL.—J. F., a female. In two hours after death was extremely rigid in the superior extremities ; the neck, legs, &c., being limber ; the heat being 104°, and in an hour after 105° ; at three and a half hours, neck limber, legs, &c., stiff ; heat 104°, and at the fifth hour 102½° ; at the seventh hour the thigh was 100°, the body rigid, and the neck still perfectly limber and as at first.

The continuance of, or rather the degree in which post-mortem heat is evolved bears no proportion, I repeat, to the intensity of post-mortem contraction. The great heat developed in the dead body, I have endeavored to illustrate in the medical journals of our country, and will not, therefore, dwell upon that subject at present. I find, however, on examination of the original papers not yet published in detail, that for the most part, when the heat had declined, the contractility was exhausted, but that the presence of great heat, ranging as high as 113°, did not by any means imply the presence of contractility, nor the absence of rigidity. Authors seem not to have been aware of the augmentation of animal heat after death ; some have, it is true, noticed an increase of heat after death from cholera, compared with the extreme coldness of the surface during the last hours of life : but has any one hinted that this post-mortem heat ever rose as high as even the healthy standard, to say nothing of 14° or 15° beyond that ? I mention this merely to explain what MM. Orfila and Nysten mean by *animal heat*, when they assert "that rigidity is incompatible with its presence."—(*Todd's Cyc. Anat. & Phys.*) Dr. Beatty advances the same doctrine (*Cyc. Prac. Med.*) ; so does Bêclard (*Gen. Anat.*), not to name many

others. Nothing can be more erroneous. The heat often increases with the rigidity.

*Post-mortem contractility, in the human cadaver, has no connection with or dependence upon, the spinal marrow. This may be received as an axiom, though directly opposed to the reflex theory, and is easily proved by amputating the shoulder in a proper manner.** In performing this operation, it is best to leave a few portions of the skin undivided, so as to tie the arm down to the trunk, so that the former during action may not turn quite over. I select the following yellow fever cases for illustration.

Case XLI.—A. M., a German, aged 30. More than four hours after death, and one hour after dissection, possessed the contractile function in a high degree. An arm was amputated so as to include the scapula and its muscles; after which, blows were repeatedly directed upon the flexors of the fore-arm, which was as often elevated to the perpendicular; one of the inferior extremities, an hour after amputation at the hip-joint, being generally rigid, presented, nevertheless, contractility in the form of massive ridges at the places of contact from blows.

Case XLII.—P. L., an Irishman, aged 20. Dead four hours before the experiments were begun. Both fore-arms raised themselves to the perpendicular several times. The left arm was amputated so as to include the scapula and its muscles. Twenty ounces of blood by estimation were rapidly discharged by the operation. The temperature had ranged for more than four hours in different regions, at from 34° to 33° of Réaumur (nearly 109° to 106½° of Fah.). The arm was more contractile after than before its separation from the spinal marrow, rising after each blow without any loss of motor force as long as observed.

Cases showing that Amputation of the Shoulder, and the subsequent Division of all the Nerves, Vessels and Muscles of the Arm, except the perpendicular Flexors of the Fore-arm, do not in the least impair the contractile function either in force or duration:—

Case XLIII.—J. G., an Irishman, aged 32. Dead three hours; dissected one hour; viscera all removed from the body; the right arm was extended, and slapped with a piece of shingle, the force being scarcely sufficient to injure a living person. This blow was repeated at intervals five or six times; each time the man struck his hand against his shoulder with great celerity and force. A heavy hammer was then tied in the palm of the hand, but even this failed to counteract the muscular force; he struck himself heavily against the breast. A hatchet estimated at 2½ to 3 lbs., was substituted for the hammer; with this he struck the breast several times, when the contractility suddenly ceased. One hour after this, and more than four after death, both arms, including the scapulary muscles, were amputated, discharging enormous quantities of

* We have Bentham's authority, "that no man doth wrong for wrong's sake;" but still, it would seem, that some will argue for argument's sake. It has been said that the biceps, after cutting off the shoulder, and all the accessible nerves of the arm, and all the muscles not devoted to flexion, *still has nerves* blended with its texture. Hence its contractility! Now, at the least, this separation from the spinal marrow and division of all the nerves, ought to lessen in a corresponding ratio the force and duration of the contractile function. Yet this never happens. The nervous connexions and influences reduced to zero, leave the muscular force at its maximum. Defeated in the spinal reflex action, these men substitute some invisible nerve! Drowning men catch at straws. Alas! for reflex logic!

blood—hot blood—for the post-mortem temperature had been ranging from 36° to 34° of Réaumur (or 113° to 109° of Fah.); the left arm was extended on the table, resting on the hand and on the olecranon, on the angle of the scapula and the sternal end of the clavicle, presenting the deltoid uppermost. The most active contractions followed every blow, the arm twisted about like a wounded snake, the muscles of the scapula were convulsed. The shoulder having lost its *point d'appui* upon the trunk, the whole arm sometimes turned over, so that the deltoid rested on the table. Gradually, as in the former case, the contractility began to decline. I now severed all the muscles of the arm, in its lower third, except the biceps and brachiales, including all the accessible nerves and vessels, but I found the contractility as active as before. It was, of course, moderate from the previous exhaustion. The amputation at the shoulder, the cutting of all muscles, &c., but the flexors, had not impaired the contractile function in the least. The amputated limbs remained very warm about three hours.

According to Bichât, the more rapid the death, the more powerful and enduring are the contractions caused by galvanism. This rule has no certain application to yellow fever subjects, in whom percussion produces the greatest muscular activity. Still, however, it must be admitted, as a general rule, that yellow fever, which is so rapid in its march, presents more frequent and enduring cases of contractility than other fevers, according to my experience. But when we come to particularise individual *cadavera* in yellow fever, it will be found very often, that among those who have died most quickly, contractility will be present, or absent, just as among those who had lingered for a longer period.* Judging from the published accounts of galvanic muscular action in criminals after execution, I suppose that the yellow fever subject often presents a greater susceptibility to contraction. Professor Guy "*limits the contractile period in extreme cases to two hours.*"—(*Med. Juris.*)—Professor Dunglison "*to two hours after the cessation of respiration.*"—*Phys.*, vol. i., p. 338.) Percussion, as I have often observed, excites contractions in the yellow fever subject many hours—one to fourteen—after death, and even hours after complete dissection of the brain, spinal cord, viscera, and limbs, and the removal of many pounds of blood, as the case above mentioned will show.

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* The contractile force is to the organic muscular system, what gravitation is to the inorganic kingdom. The one is intermitting; the other unceasing: both are ultimate, and therefore inexplicable principles.

The explanation of muscular action by the anterior roots of the spinal cord, though it meets the eye from every point of the medical horizon, is, I repeat it, wholly unsatisfactory. The same may be said of the pathological facts which are relied on to prove the reflex doctrine. Not to repeat what I have elsewhere said, I will quote *Béclard*, who, after declaring the spinal cord to have but one office, namely, that of a conductor transmitting a sensation by its posterior, and motion by its anterior roots,—being the seat of the principle of irritability, so that its destruction or removal renders the excitation of motions impossible, adds, that he has made many experiments upon animals, showing that injury of the nerves is followed by no grave accidents—the reunion and the re-establishment functions take place very promptly. (*Gen. Anat., passim.*) The practical Sir Astley Cooper, after many *bonâ fide* operations upon the *human nerves* for tumors and the like, having twice removed portions of the great sciatic nerve, concludes, that "wounds of the nerves are followed by little irritation—that they are very rarely inflamed, and that tetanus is the result of injury to tendinous rather than to nervous structures." (*Lect., Tyrrel's Edit.*, vol. i., p. 245; vol. iii., p. 125.)

Mr. John Felix, a young gentleman of veracity, long a resident student in the Charity Hospital, has just informed me that a man who died of a thoracic affection on the 3d of Jan., 1846, fourteen hours after death presented a strong example of muscular contraction, the fore-arm having been elevated to the perpendicular after each blow given with the inferior edge of the operator's hand. I may be allowed to remark, that the professor of physiology should consider his course incomplete without demonstrating the phenomena of muscular action, thus laid bare to the view of his class—a process so slow, so lucid, and so unlike the muscular convulsions excited by galvanic piles, wires, nerves, and the like, as to produce on the minds of the beholder an indelible impression. Here seeing is believing. The explanation, as in all ultimate facts or laws, may be impossible, as in gravitation, attraction, and so forth. This, however, is no valid objection. When a vivisector gives his experiments, we cannot verify them without trailing with him through the blood of animals half dead or killed for the purpose—a method too repulsive to be practised—which cannot be said of percussion, since it does not require a wound even in the *cadaver*. Mr. Brereton, who, by the way, is not, and, I believe, never was a worshipper of the Reflex Idol, says "that according to his experience the reflex action is never developed when *sensation is completely destroyed*."—(*Lancet*, 1844.) The bare possibility of this is a fatal objection.

Post-mortem Contractility, when excited by percussion, is the best fundamental type of the periodicity of the contractile function,—better, certainly, than that originating in galvanic electricity; voluntary action may be much more perfect; electric action necessarily more rapid. The contraction operates for several seconds or minutes. Relaxation, by which the muscle is made to assume its normal figure, presents another distinct interval. The counter-motion, though less prolonged, is equally distinct. Then comes the period of repose (analogous to that following the fatigue, in living muscles), the forerunner of renewed efforts—efforts, however, which must speedily exhaust the quantum of contractile force for ever. The period of exhaustion may be hastened or deferred, in many cases, according to the manner of procedure. The contractility may be *killed* by a severe blow, especially if at the same time a weight be fastened in the palm. It is worthy of remark, that by a proper application of blows, all the elemental motions of the arm may be produced more or less perfectly, as flexion, etc.

Does percussion act in any sense like galvanic electricity? Let us see. Is the cuticle any barrier to percussion? No. Does percussion require a complete circle of metals, nerves, and muscles? No. Does it act through the anterior roots, or other portion of the spinal cord? No. Does it act in a rapid, inconceivably rapid, convulsive manner? No. Dr. Hooper says, in speaking of galvanic action in frogs, &c., that "contractions can be excited even to the instant of incipient putrefaction," and, if so, here is another great difference. Motion, by this method, is diametrically opposed to every kind of motion known in natural philosophy: it is opposed to the Newtonian law of mechanics, which requires motion to be in a straight line—to be in proportion to the impressing force, and, in the opposite direction, to be equal and contrary to the re-action. A more complete contrast to these laws cannot be imagined, than that a blow, the direction of which is towards the side of the arm opposite the biceps, should cause a contrary motion to that of flexion,

to say nothing of a slow intermediate motion incidental to the relaxation of large dense masses of muscle, and, lastly, extension—a counter motion. If we could explain mechanically, that movement which causes the *cadaver* to lay his hand on his breast, where, by the great law of *inertia*, it ought for ever to remain, we must fail to explain the contrary motion, by the same force: dead matter, once at rest, cannot pass into a state of motion by any inherent power of its own. We are, therefore, obliged to admit the existence of a force—a force adequate, not only to overcome the *inertia* of the arm itself, but that of weights placed in the palm: to call this principle chemical, electrical, reflex, or mechanical, is chimerical. If we reject a vital force, in this case, some name, however unmeaning, may be substituted: call it the *vis musculosa*, or the *Essence of Owl*, as the East Indians denominate the agent which causes epidemics (as we are told by Bishop Heber). It is a force totally unlike that from impulsion, since it bears no relation to the momentum, direction, or instantaneousness of the impinging body. It is, as already mentioned, unlike electricity, which would probably travel round the globe thirty times during the period necessary to produce one contraction of the biceps. It is unlike mechanical, chemical, cohesive, and gravitative forces, being *sui generis*. Here we must adopt the last words uttered by the astronomer, La Place, "*Ce que nous connaissons est peu de chose, ce que nous ignorons est immense.*" "We should wander on eternally in darkness," says Bichât, "the moment we quit the plain path of experiment. Let us be contented, therefore, to collect facts, examine and compare them together, and make ourselves acquainted with their general results. Such inquiries can form the only true theory of the vital powers; all beyond it is conjecture."—(*Res. on Life and Death.*) To attempt an explanation of this phenomenon by means of a cataract of such words as reflex, efferent, afferent, chemical, galvanic, is idle. Whenever muscular contraction shall be ascertained to be a simple element, or a compound, having a definite chemical character, then it will deserve a suitable chemical name; until then, an unmeaning, or non-theoretical name, is as good as any; indeed, the *vis vitæ*, is very much of that sort; for, strictly speaking, it represents a mass of facts, not yet rendered amenable to the laws of the physical sciences, rising, as it does, above or beyond inert matter, and being very often opposed to the *modus operandi* of the latter, so far as our present knowledge goes.

The unbelievers in the *vis vitæ*, though often regarded as a sort of atheists in physiology, are, notwithstanding their materialism, no unbelievers at all, except when *vitalism* is concerned. They are sufficiently credulous, in advance of experimental proof, to believe, that life is only so much electricity, or galvanism, or magnetism, or chemical, crystallized matter. Even some of the vitalists themselves hold that life is matter of an imponderable and sublimated character.

Were I to assert, that the *vis percussionis*, by exciting the *vis musculosa* or the *vis motoria*, overcomes the *vis inertiæ*, and at the same time maintain that these words afforded an explanation of the phenomena in question, nothing would appear more ridiculous. But, when these terms are used simply to characterize three different classes of facts, often conjoined in a manner wholly unknown, yet so linked together that one follows the other in a definite order, then the case is quite different. The *vis inertiæ*, though apparently the simplest law of matter, is, in truth, like

motion by contact, one of the greatest stumbling-blocks in philosophy, to say nothing of the more obscure and eccentric laws of vitalism.

The *vis vitæ* and the *vis inertiæ*, or the animal and mechanical laws, perpetually intersect, retard, accelerate, modify or combine with each other. The former, extremely complex, and marked by intermitting actions, with intervals of repose, is always more or less amenable to the laws of inert matter. In the present instance, the flexors of the arm, inserted as they are in the unfavorable end of a long lever, near the fulcrum or elbow joint, must be considered as exerting a great force to raise the arm alone, to say nothing of weights placed in the palm. The raising of three pounds, placed in the extreme end of the lever or palm, according to the *data* of physiologists, is nearly equal to 200 lbs. ! In some instances, I suppose the weights raised might have been more than doubled without counterbalancing the contractile force. Thus, by adding the weight of the arm or lever beyond the insertion of the biceps, the whole will amount to about 10 or 12 lbs., having an enormous leverage, like a pair of steelyards. Be the muscular force what it may, it contends face to face with the *vis inertiæ*, which it antagonizes for a certain period in the *cadaver*, independently of the galvanic circle of metals, muscles and nerves, and in opposition to the reflex logic. Why employ a complicated apparatus, when a stroke with the hand, a horn,* a cane, or hatchet, will answer better? "Every muscle," says Bichât, "which has been strongly contracted, requires a certain period of relaxation, before it can be excited again by contraction. Hence the necessary intermissions of locomotion and voice."

The contractile function in the *cadaver* presents several phenomena already alluded to, more curious and difficult to explain than simple contraction, as, relaxation and counter-action. "The contraction of the muscle," says Professor Dunglison, "is followed by its *relaxation;* the fibres returning to their former parallel condition. This appears to be a *passive state*, and to result from the suppression of the nervous influx by the will; in other words, to be produced by the simple cessation of contraction. Some have, however, regarded both states to be active, but without proof. Barthez maintains, that "the relaxation of the muscle is produced by a nervous action, the reverse of that which occasions its contraction; the will relaxing the muscles as well as contracting them." This latter view, omitting the supposed agencies of the nerves and the will, receives support from cadaveric phenomena. The contractile force elevates the fore-arm, with or without a weight in the palm, so as to rest against the breast. The *vis inertiæ* requires these masses to remain at rest. This sometimes actually happens, after one or more contractions. If the last blow has completely exhausted the motor power, the muscle does not relax in some few cases. The tumefied, dense zigzag mass remains contracted until the *rigor mortis* supervenes.† But, in other cases, this relaxation is repeated, as if by inter-

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* I have, for reasons that will occur to the reader, used both conductors and non-conductors of electricity, in exciting contraction, and have caused the hand of the *cadaver* to be held down, that the mere mechanical impulse of the blow might first pass off,—a useless precaution, which I was driven to by some theorists, who, not admitting anything to be new under the sun, vainly puzzled themselves with fanciful explanations.

† This occurrence affords, as I imagine, the very best opportunity for the student of minute and microscopic anatomy, to ascertain the structural phenomena inciden-

mediate power, the forerunner of a powerful counter-action, or extension of the arm. These antagonistic and intermediary movements seem to indicate a three-fold power. In the living body frictions cause the speedy relaxation of those painful, knotty masses of muscle, called cramps; sometimes in the dead body, the period of the contraction of the muscle may be shortened, and that of relaxation hastened by the same means. Even after the *rigor mortis* has declared itself, the arms, by flexions, extensions, and frictions, may sometimes be restored to a contractile condition, as already shown.

Upon the whole, the percussional method, how simple soever it may seem, gives rise to very interesting phenomena, of a character but little complex, and though it may lack the dignity of galvanic machinery, the horrors of vivisections, and the mystery of the reflex theory, yet it should not be ridiculed, nor condemned, because it fails in dramatic effect.

The illustrious Franklin had published his hypothesis, namely, *that lightning and electricity were the same*, before he had positive evidence of its truth. But when he undertook the experimental proof, by means of a kite, made of a silk handkerchief, such was his dread of being laughed at by the Philadelphians for the simplicity of his proceeding, that he let no one but his son know it. He went to a retired place in a shed, and sent up his kite. A cloud passed, but without effect. He was in despair. Another cloud arose. He now drew down the lightning. Hypothesis became fact. Franklin had the sublime pleasure, perhaps never before equalled, of subjecting the dread thunderbolts of Heaven to his will. The kite experiment gave place to millions of lightning rods, which everywhere bristle against the skies to disarm the thunder-bearing cloud of its terrors, and to perpetuate the name of the experimenter. Gratitude, not ridicule, was his reward. This statement, though a digression, serves to show that the most simple experiment may lead to the most important results.

Bichât's doctrine of two lives—one, the perceiving, feeling, willing, moving, external, called the animal; the other, the nutritive, the negative, internal, called the organic; may serve to illustrate post-mortem contraction. Without admitting to the fullest extent, with Bichât and Broussais, that contractility is a "fundamental, vital property," we might justly regard it as a leading feature in the vital phenomena of at least one tissue,—the muscular. If we regard life, not as a unity, nor yet as a duality, but as a multiform aggregation of particular vitalities, the harmonious operation of which constitutes health, the derangement of which constitutes disease, and the general dissolution of which constitutes death, then it will not be unreasonable to suppose, that each tissue, having a kind of sub-life, or special life of its own, may die before, or after some other tissues. Hence, the muscular and capillary tissues may, and often do, survive death in this detailed sense, among the numerous structures and functions of the general system. But the presence of

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tal to the contracted state of the muscular tissue, as the *rigor mortis* in this fixes, as if by congelation, or petrifaction, all the parts, exactly at the moment of their contraction. Certain it is, that an apparent increased cohesion, and augmentation of volume, may take place without any approximation of the ends of the muscle, as when the fore-arm is rigid; while the belly of the biceps is strongly contractile, though both its ends may be fixed as already explained.

this muscular life, isolated from all other vital phenomena, furnishes no positive proof of the presence of what is strictly and popularly called life.

After the death of the brain, the lungs, the heart, the senses, the will, &c., a degree of vitality in its simplest elementary form seems to linger in the muscular tissues, and which impulsion makes manifest by a route so direct and short, that the motor power and the contractile phenomena appear absolutely conjoined as cause and effect; and if its *modus* is not easily understood, neither does it assume a host of inexplicable agents—nor afferent, nor efferent roads, as in the reflex system. It does not offer an assumed, circuitous transmission as a good explanation.

Post-mortem contractility being, as we have seen, independent of the nervous system, suggests many important physiological and pathological truths to the impartial inquirer. Probably many of those diseases now attributed solely to lesions of innervation,* begin, continue, and end chiefly in the muscular system; for example, tetanus, spasms of the gullet, stomach, bowels, bladder, urethra, womb, and hour-glass-contraction, cramps, &c. Why resort to a lesion of innervation—a lesion not discoverable before or after death, by any of our senses, when the patient and his attendant have every proof of a muscular disease, in tetanus, for example? Haller mentions a girl affected with tetanus, bent backward (opisthotonos), whose abdomen sustained a weight of 800 lbs., without straightening the body! Simple rigidity, so universal and persistent, is quite sufficient to exhaust and to kill, as every one at all acquainted with the essentially remitting action of the muscular system in health must know. Let the morbid anatomist not direct his whole attention to the brain and nerves, in these cases; it may seem more learned to dwell on assumed functions of the spinal, ganglionic, and central nerves, and their reflex action, &c. The muscles should be examined—their color, cohesion, texture, &c. Does the tetanic rigidity relax to be replaced by cadaveric rigidity, &c.? Might not the subcutaneous operation of dividing one of the tendinous ends of a wounded muscle, as soon as the first symptom of tetanus declared itself, prevent

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* *Innervation!* Happy word to conceal our ignorance! It merits all the benedictions which Sancho Panza pronounced upon the inventor of sleep, "it covers us over like a garment!"

"*Innervation*," says Professor Harrison of New Orleans, "includes five classes of phenomena—*change of nutritive action, muscular motion, sensation, the intellectual affections, and the emotions;* but as the change is essentially chemical, it is obvious that in each of the latter the first is included. Muscular action, sensation, thought, &c., are, therefore, mere results, &c."—(*Nerv. Sys.*, p. 64.)

The spinal cord seems to be the grand laboratory of Innervation. The spinal chemistry, the spinal physiology, and the spinal pathology, are sufficiently mysterious in themselves; but when enveloped in the dense fogs of the reflex action, ebbing and flowing, no one can tell which way the land lies—a stratum of fog rolls along the sky, shutting out the light—another still darker scuds along the land and the water, hiding both; it is a poor consolation to hear that one mass is afferent, and the other efferent.

Though a little out of place, I will take the liberty of making another quotation from my learned *confrère*, who has so ably advocated the cause of the Chemical School. "Every case of fever from a local injury is but a manifestation of reflex action from the spinal cord. All the tissues are affected by the reflex action of the spinal cord;—these are chemical changes, because the essential actions of life are themselves of a chemical character."—(Pp. 24, 55.)

the development of that horrible disease? When cramps, convulsions, and spasms, present themselves in the muscles with evident changes, even before death, why should we invoke the nerves, exclusively, in which changes cannot be demonstrated? The spinal marrow is, doubtlessly, necessary to health, and liable to disease,* but these are muscles by no means over-rich in nerves that are quite as necessary to life. The heart will bear vivisection still less than the brain and spinal cord. To expound pathology chiefly by supposing changes in the nervous tissue that cannot be recognized by our senses, neither before nor after death, or to rely on equivocal vivisections, as the cutting up of all the other tissues, or opening the brain to get at the great nerves of the centre, is truly a reflex, not a direct road to the knowledge of the theory and practice of medicine. And when Dr. M. Hall positively asserts that "the *whole tone* of the muscular system," and "*all* spasmodic diseases, belong to the reflex function of the spinal cord," we must dissent with all due deference to an authority so highly respectable. That the muscles may be primarily affected by many diseases is by no means improbable. In the commencement of fever, especially of yellow fever, the patient more uniformly complains of soreness and pricking pains in the muscular parts than of the head, or spinal marrow. To feel "tired all over" (to use the patient's usual phrase) is more characteristic than even chills. At all events, the pathology of the nervous system is not, as yet, sufficiently certain to justify us in ascribing such symptoms exclusively to the ganglionic, central, or spinal nerves.

Let us return a moment to tetanus,—the type of reflex pathology; the disease, above all others, wherein no morbid change is met with in the nervous system, its supposed seat, according to all the great authorities, as Larrey, Cooper, Hennen, and others. Curling, in his prize essay, says the same; yet he ascribes the disease to the motory tract (*tractus motorius*). Larrey refers this disease to the spinal cord, though his facts, and even his method of cure, have, if I may judge, a contrary import. Does not his method of amputation, in the incipient stage, cure by relaxing the muscular tension of the limb, rather than that of the anterior roots? Dr. Hennen, in his dissections, looked, where others have looked, into the viscera and nervous system, only to be disappointed; and yet he incidentally mentions having found "*the muscles a good deal injected with a serous effusion.*"

Mr. Curling, in his prize essay on tetanus, remarks: "*The muscles are not usually rigid after death.*" Dupuytren somewhere mentions that he found the muscles after death from tetanus reddened and engorged. In his "Clinical Surgery" (chapter xvi.), I find the following passage:—"*Necropsy of J. B. Roger* (who had died of tetanus), *thirty-six hours after death. Great rigidity of all the parts of the body which had not been affected with tetanus;* but the muscles of the neck, shoulders, and, in general, all those regions in which the tetanic rigidity had existed, *were completely relaxed.*"

Now, instead of going upon a circuitous route to the anterior roots for an explanation of either relaxation or rigidity, it would be easier to look

* A voluminous French author, the late M. Pinel, never saw but three cases of softening of the spinal marrow, two of which were published by M. Magendie, in his Journal, in 1821.—(*Med. Times, Sept.*, 1845.)

to the muscles themselves. Is not the *rigor mortis* the last struggle of the expiring muscles? When their force has been nearly *exhausted*, perhaps completely *killed*, by the morbid or tetanic rigidity, is it not reasonable to suppose that the *rigor mortis* would be greatly modified in degree or duration, if not prevented altogether? Do not the tetanized muscles putrefy in advance of the non-tetanized? Every dissector sees, in the relaxation or flexibility which follows cadaverous stiffness, the first step towards putrefaction; and where the former does not appear at all, or is very transient, the latter supervenes with the greatest rapidity. (It is right that I state I have never made *post-mortem* examination in this malady with care.)

In connection with this topic, I may be allowed to merely glance at a curious fact, the full development of which requires a distinct monograph, in the morbid anatomy of southern fevers, be the subjects thereof from the tropics, the temperate, or the frigid zones, showing that the intestinal canal, chiefly from the ileo-cœcal valve to the anus, is often contracted into a round, consolidated cord, without having any of those changes designated by atrophy, hypertrophy, hyperæmia, or inflammation. This contraction, for reasons which I cannot now offer, must exist anterior to death, and continues (during the general *post-mortem* rigidity and relaxation of the *cadaver*) up to the putrefactive period, obliterating the intestinal cavity. If any fæces be present, they are strongly compressed either into rods or balls, being nearly dry. Sometimes the large intestine resembles a cord with knots, at intervals, owing to scybalæ, and seems, moreover, considerably shortened. In other cases, and indeed very often, the natural notchings, puckerings, and pouches, are replaced by smooth surfaces, the whole intestine not exceeding the thumb in size. In rare instances, the contractions take place at intervals, leaving intervening links of the natural dimensions. These contractions strongly oppose attempts at dilatation. Is this lesion tetanus of the intestinal muscular tissue or coat?

In the *Gazette Médicale*, of February, 1845, Dr. L. A. Mercier relates that M. Amussat, having introduced a small bougie into the urethra, found it equally impossible to pass it into the bladder, or to withdraw it, until he had forced an injection into the canal. Dupuytren says: "The first touch of the bougie causes the canal to contract, so that it is disengaged with difficulty." Now, this contraction appears to me direct, not reflex, being excited in the urethra and in its contiguous muscles by disease, pressure, &c., not wholly unlike post-mortem contraction from a blow.

In cases of retention of urine, wherein the usual means fail, success may be expected, generally, by prolonged pressure with the catheter exciting violent muscular contraction, which, like healthy and post-mortem action, has a tendency to exhaust itself, or pass into relaxation, agreeably to one of its great laws, periodicity, and thus allowing the instrument to pass. Hernia, dislocations, and the like, might also be referred to in illustration.

A great many involuntary tonic and clonic contractions seem to be far more muscular than reflex and nervous in their origin and progress, being, in their irregular or morbid character, more or less subject to the great physiological law of intermittence, which is most clearly developed in the *cadaver*. It is a far-fetched explanation of parturition, to refer it to the reflex action of the spinal cord! The pains in expelling the child,

the placenta, coagula, &c., usually lasting several days, are just such as might be expected in a great hollow muscle while contracting, though in these, as in all cases, there is doubtless a participation of the nervous and other tissues.

Simple contraction of the muscular tissue of the uterus is quite sufficient to account for the principal phenomena, without reflex action.

Cramps, in cholera, yellow fever, etc., are, no doubt, what they seem to be, affections of the muscles, not of the anterior roots of the spinal nerves. There is a possibility of being too profound for either physic or philosophy; cramps, morbid changes, inflammations, and the like, are disdainfully called nothing but effects—and truly they are of that character among the all-knowing immortals—as much so, without doubt, as gravitation, which is also an effect, though, to all mortal men, it must be regarded, for practical purposes, as a cause or ultimate principle, beyond which we cannot go. How will such logicians explain the following two cases, upon which I found this question?—

Does muscular contraction, after death, ever show itself unconnected with any appreciable cause or excitant?

A young lady, who had been my patient, died of cholera, in 1833, at Wheeling, Virginia, during my visit to that town. I obtained, with difficulty, permission to make a *post-mortem* examination, at about three hours after death, when I found a brisk twitching of the fingers, somewhat like *subsultus tendinum*, being chiefly in the flexor muscles, which latter had suffered before death from cramps and strong flexions. Here the disease of the muscle, so to speak, was still operating!

The next case, still more remarkable, was most carefully noted at the instant of its occurrence, as follows:—1843, October 8th, 11 A.M. Peter Duffy, Irishman, aged 28, last from St. Louis, resident in New Orleans one month; sick four days; hand, 23°; bend of the arm, 26°; axilla, 28° of Réaumur; body curved to the right; fists clenched; forearms flexed, pressing against the chest; insensible; a column of black vomit, about twenty ounces, was projected from the mouth, like a *jet d'eau*, two or three feet perpendicularly: it fell back into the mouth, and on the right side of the face; the mouth being closed, two smaller streams were forcibly discharged through the nostrils upon the breast; the jaws became fixed; the lips compressed; respiration ceased. He was dead. Every part of his body was quiescent and motionless; but, soon after, he performed the following motions, occupying, by estimation, from three to five minutes:—First he carried his left hand, by a regular motion, to his throat, then to the crown of his head; the right arm followed the same route on the right side; the left hand was then carried back to the throat; thence to the breast, reversing all its original motions; the right hand and arm performed exactly the same motions: in all, eight consecutive, identical, equable motions, in apparently equal times, and with a regularity indicative of volition, though before death he was totally insensible.

Post-mortem contractility, in its legal applications, is not without interest, showing, as it does, the absurdity of some grave *judicial decisions*, based solely on muscular motion, which latter has been held to be a sufficient proof of life in a new-born child, enabling the husband to inherit the estate of his wife during his lifetime. In a case given

by Dr. Dunglison (*Phys.*, v. i.), the Court of Exchequer (in England) and the jury decided that the child was born alive, because, when it was immersed in a warm bath, a *twitching* and *tremulous motion* of the lips appeared twice. What would the Cokes and Blackstones of the law say, agreeably to this principle, on seeing a dissected, eviscerated man performing regular flexions, extensions, pronations, supinations,—lifting heavy weights from the floor and placing them on his chest? To designate the precise moment when living becomes dead matter is indeed a desideratum: "to be, or not to be, that is the question" which science, humanity, and the strongest of the human passions have not been able to solve.

Although three centuries have rolled away, no anatomist, no medical man, can think of the melancholy fate of the illustrious "Vesalius" without emotion:

"Vesalius," says Mr. Hallam, in his History of the Literature of Europe, "left every anatomist far behind. He was to anatomy what Copernicus was to astronomy. A superstitious prejudice against human dissections had restrained ancient anatomists in general to pigs and apes. Vesalius and his students prowled by night in charnel-houses, they dug up the dead, they climbed the gibbet, in fear and in silence, to steal the mouldering carcase of the murderer, the risks of ignominious punishment, and the secret stings of superstitious remorse, exalting, no doubt, the delight of those useful but not very enviable pursuits. Being absurdly accused of having dissected a Spanish gentleman *before he was dead*, Vesalius only escaped capital punishment, at the instance of the Inquisition, by undertaking a pilgrimage to Jerusalem, during which he was shipwrecked, and died of famine in one of the Greek Islands" (in the year 1563). The only proof against Vesalius was, that the young nobleman's heart *moved* (some say palpitated) when it was exposed to view by dissection. This motion was doubtless nothing more than some contractions of the muscular fibres excited by the knife (as already explained), and which may be produced in every heart recently dead, without, perhaps, a single exception. Having digressed so far, I will add that, some years since, several medical students declared to me that, while dragging an extremely large, yellow fever subject from one room to another, preparatory to dissection, the *cadaver* groaned distinctly. I arrived soon after—I found the contractile function very strong. Venesection discharged blood with force upward, against the principles of gravity, and in great quantity—(a curious subject, upon which I have the materials for a monograph). The circumstances alluded to appeared wholly inexplicable, until, at length, I heard a subject groan with my own ears,—since which I have caused many groans by placing the foot against the chest, and making strong pressure, which causes the air to be expelled through the larynx and organs of speech with noises sometimes not unlike difficult breathing and inarticulate moaning. The elasticity of the ribs causes them to return to their former state, as soon as the pressure is withdrawn; the air at the same time rushes through the opening of the glottis to fill up the vacuum in the chest.

In most biographies of Vesalius, it is said that, after he had dissected down to the heart, this organ was found palpitating with life! This nobleman, be it observed, had been the patient of Vesalius, had died under his eyes, and *showed no signs of life during the early part of the dissection*, and before the exposure of the heart—the friends of the de-

ceased had requested the post-mortem examination, and did not, it may be inferred, proceed prematurely. The operator had long before published the greatest work on Anatomy that the world had ever seen (*De Corporis Humani Fabricâ*), and must have known what were the signs of death. From all these circumstances it may be inferred that the accusation upon which the Inquisition condemned him to the most cruel tortures and death, and from which Charles V. saved him, was absurd in the highest degree, and originated in that post-mortem contraction above described.*

The tales now circulated, chiefly by some European writers, going to show that not a few persons have been buried alive, or have shown signs of life after the phenomena supposed to belong to real death had taken place, may have no better foundation in most cases, than that upon which Vesalius was exiled. It is, moreover, to be observed that the most cele brated writers upon this subject, and upon premature interment, seem to get their facts from reports and rumors not properly authenticated. Even M. Julia de Fontenelle, who has written elaborately upon this subject, seems not to have seen any of the cases which he has collected from all points of the compass, chiefly from the newspapers. Such facts afford at best

"A most lame and impotent conclusion,"

which must be productive of evil only, by arraying the strongest prejudice against the progress of science and the increase of human happiness.

I beg leave to add the following observations, suggested by an examination of the last American edition of Bell's Anatomy and Physiology, made since the above essay was written. In the articles entitled, "*The Muscular Power—The Discoveries of the Author*," etc., will be found the statements following: "The key to the system—is, each filament or track of nervous matter" [whether from the anterior or posterior portions of the spinal cord] "has throughout its whole length, its peculiar endowment; if its office be sensation, when injured, sensation, not motion, will result;"—that portion of the "ulnar nerve formed of the anterior root of the spinal nerve, in all its extent constitutes one organ, and ministers to one function, the activity of the muscle of the hand and finger."—"The nerves have all the power of exciting motion."—But, when he comes to speak of a muscle's quivering and moving after its separation from the body, he is sorely puzzled. He does not, like Dr. Hall, pretend that the mere introduction of a probe into the spinal mar

* It appears from the Boston Medical Journal, for January, 1846, that a Dr. Waterman, of Buffalo, N. Y., has been sentenced to hard labor for three years, in the State Prison, for *disinterring* a dead body for dissection! Has the age of Vesalius returned? Is it a crime to increase human happiness by increasing human knowledge, its indispensable element? Shall the worms on land, and the sharks at sea, be entrusted with the whole knowledge of Anatomy? Is that true philanthropy which seeks to save the ravisher and murderer from capital punishment, that he may be placed in prison side by side with an honest man, whose only crime consists in operating on the dead, that he may know how to operate on the living with safety? The Quack is privileged to kill with impunity! Will he be in haste to change his ways—to become a good citizen—that is, to get a knowledge of his profession, when the punishment of a felon is to be the reward of his pains?

row will cause the muscles to become "instantly flaccid, non-resilient, shapeless" (an expression too strong for imagination itself), "and non-contractile." Sir Charles attempts to account for the contraction: but in so doing, he completely nullifies, nay, destroys, his own theory of anterior roots, as well as its reflex addition, both root and branch. "There can be," says he, "no separation of the muscular and nervous systems —the nerves meet everywhere with the muscular fibre." Here, then, is a fine piece of logic! The anterior tract of the spinal cord gives out the anterior roots, which are the sole agents of motion! But when the arm is separated from the body, then the motion is performed, not at the origin, but at the extremities of the nerves, which belong to the biceps, for example! This is as good as an unconditional surrender. I offer but one argument more, and I appeal to a candid world if it be not conclusive against the doctrines of Bell and Hall. In striking the biceps muscle, in the manner I have described, nearly all the great nervous cords distributed to the arm, fore-arm, wrist, hand, and fingers, are equally the recipients of the percussing force, as the external cutaneous, the median, etc. Now, the same force that is applied to the nervous twigs of the biceps, ought to communicate motion to all the parts upon which the great nerves ramify; that is, to the fore-arms and fingers. This never happens in the slightest degree; the motion is limited to the muscle struck, and not transmitted to the muscles to which the nerves are distributed.

In a word, the London experiments were made upon the roots—the New Orleans experiments upon the terminations of the nerves; the former were few, it would seem, and were upon inferior animals—the latter were numerous and upon man. In London the contractions were feeble, "though perceptible to the naked eye"—in New Orleans they were powerful, carrying heavy weights during flexions and extensions against gravity and against a leverage of great force; upon the whole exceeding the former as much as the Mississippi River exceeds the Thames.

In making these statements I indulge a hope (an illusion, it may be) that critics, whether from contempt, or charity, or justice to the writer of this monograph, will perform the experiments herein mentioned, before animadverting too strongly upon its doctrines. The experiments are easily performed. Is it right to throw the great reputation of my opponents in the scale against my facts? In such a case, laboring as I do *con amore*, whilst every capital in Europe swarms with salaried professors, who are teaching neurological doctrines quite opposite, the *argumentum ad hominem* is unworthy of Mrs. Caudle herself. It is precisely the great reputation of our masters which, as history teaches, is likely to impede the march of science in many instances.

APPENDIX.

I have, this day (Feb. 9th, 1846), for the first time seen Dr. Marshall Hall's Memoirs on the Nervous System (4to., plates, pp. 113, London)—being somewhat later than his lectures upon the same subject as quoted above, and differing in nothing but a slight re-marshalling of sections and sub-sections. No one can regret more than I to speak of a writer so

justly distinguished (independent of any reflex theory) as Dr. Hall, in any other terms than commendation, but as his experiments seem to have a bearing more or less in conflict with mine, I must run the risk of being charged with temerity, if not arrogance, in the cause of what I suppose to be the truth; this may not be good policy, but it is at least honest and warranted by the occasion. I rely fully on the authenticity of his facts (many of which have probably no application to the physiology of man). I only differ from him in their interpretation and value. At page 112 of the above named work, he gives what he emphatically calls a recapitulation of "The *whole of his discoveries*;" "*discoveries*," as he declares, "*entirely due to him.*" Such statements, involving priority of discovery, may often seem sterile to the reader, but they are not necessarily either unreasonably selfish or egotistic, but come under the golden rule which "renders to Cæsar that which is Cæsar's." "First discovery; the *distinction* of the excito-motory property from sensation, volition, instinct, and all the functions of the cerebrum or mind." Now, is not this an assumption, implying (possibly truly) that when the head is chopped off, sensation, volition, and the entire mind, are completely chopped off likewise? Ignorant as we are in such matters, until some decapitated gentleman shall arise from the grave to explain further concerning the feelings and the motions of his headless trunk, what can be gained by subdividing all the muscular actions in this same trunk, after "the amputation of the encephalic extremity," which, a learned author informs us very gravely, "cannot be done in the living subject without stopping respiration and producing other inconveniences, which under the operation are happily inadmissible." "Second discovery; the *distinction* of this property from the *vis insita*, or irritability of the muscular fibre." Is not this a distinction without a difference—one that runs through all of Dr. Hall's books on the reflex theory? He labors hard—and it were easy to show unsuccessfully—to prove that his doctrine has nothing to do with the old discovery of irritability; yet he has everywhere admitted that they may and do exist simultaneously. That vague mass of phenomena designated by the *vis insita* has been baptized under another name; a theoretical name which implied no theory, where no theory is available. Repudiating the *vis insita*, he claims for the reflex function; "the principle of equilibrium and tone in the whole muscular system, and the principle which presides over the orifices and sphincters of the internal canals"—(p. 38);—all of which, according to him, cease as soon as the spinal cord is disintegrated, leaving the muscles "*lax, flaccid, without resiliency, shapeless*" (*passim*)—none of which, I will add, ever happens with human cadavera, in lat. 29° 67′ N., long. 90° 7′ W.; though I cannot speak for the meridian of Greenwich, long. 0°, lat. 51° 29′ N. "Third, the *distinction* of this property as a function of the spinal marrow. Fourth, the *identification* of the excito-motory property with the motor power exercised by the spinal marrow. Fifth, the excito-motory property acts in an *incident, retrograde*, and *reflex course*, when stimulated mechanically or by galvanism, or by the natural stimuli in the living animal." "These," he adds, "are *all* the points certainly and entirely due to him."

"The spinal cor d is the sole organic seat of this reflex function, and in an especial manner of the emotions, passions, and appetites" (pp. 96, 71). Let psychologists who have the care and cure of souls, and

phrenologists, who perform the same offices for our cranial bumps, consider this matter well. Mr. G. Combe has mapped off thirty-five phrenological organs; two reflective, twelve perceptive, leaving no less than twenty-one for the passions, propensities and sentiments—all absorbed by the spinal marrow, according to Dr. Hall,—a goodly number, seeing their unruly character and unfortunate location, to use an Americanism. Dr. Hall might as well claim all Oregon as all the emotions and passions for the spine. Phrenology sustained itself with difficulty in upper realms of intellection, but, with more ease as soon as it dipped its wing in the lower, the animal, the philoprogenitive, the amative, the cerebellar territories. The reflex science, as if by enchantment, transfers the whole of the passions and the mysteries of generation to the spinal region, throwing, at least, a suspicion upon the stability of human knowledge; though Dr. Hall maintains that his "*System is scarcely liable to error; its originality is obvious.*"—(P. 53.) "Day follows night, and night the dying day,"—not a pleiad has ever wandered from the constellation of Taurus, while medical systems disappear like the banks of the Mississippi, which often shoot noiselessly away, with house and builder many a fathom below the turbid waves. *Sic transit gloria mundi.*

Dr. Hall has given a number of plates or maps, exhibiting, not the phrenological regions, nor yet the fantastic travels of a delirious dreamer, but the devious windings, and marchings, and counter-marchings of this romantic reflex potentate, the veritable Don Quixote of physiology. Contraction by percussion in the manner I have described, would be wholly excluded from irritability, as defined by Dr. H., who says, "The movements of irritability are the result of the *immediate application* of a stimulus to the nervo-muscular fibre *itself.*"—(P. 31.) I affirm, that a blow on the skin with an intervening layer of fat an inch or more thick, is as effectual, perhaps more so, in exciting contractions than one *immediately laid on the naked fibres themselves.*

There may be some convenience, if not philosophy, in dividing muscular contractility into voluntary, involuntary, and mixed—but to divide it into psychical, galvanic, cerebral, reflex, vital, irritable, and the like, with a view to establish species of a scientific character, to tally separate and different from each other, is perfectly idle. Since the metaphysics of Neurology can furnish nothing better, let us appeal to common sense for an illustration. The personator of the melancholy Hamlet, for example, in speaking of

> The heart-ache, and the thousand natural shocks
> That flesh is heir to,—

would probably put his hand on his breast. The next day the tragedian falls sick of a cardiac disease, and puts his hand to the same place to point out a physical ache. The day following, being comatose and insensible, he probably places his hand in the same way. He dies. I strike the biceps, and as in the tragedy, as in the sickness, he carries his hand to his breast. Here many circumstances have changed—muscular action is modified; yet who will prove that this action itself is not essentially the same in nature, though excited differently? Haller would say—Vis insita!—C. Bell, Anterior roots!—Hall, Reflex action!—The electricians, electricity! galvanism!—The vitalists, vitality!—The che-

mists, chemistry! Omitting the third flexion in this series, the two first are such as would be denominated *psychical*, because excited by the mind, and the last would be called by some other name, according to the operator's theory; but in neither case do we know whether the essential nature of both be the same or different; and we deceive ourselves in supposing that the name explains the thing. If the post-mortem contraction were called *stickical*, because excited by a stick, it would be as good an explanation of the phenomena, as to call the ante-mortem contraction *psychical*. A celebrated physician, so the story runs, in finishing a course of lectures on muscular motion, said, "Gentlemen, I have told you all that is known upon this subject, and now, if you understand one jot of the cause of muscular motion, you know more than I do."

It is not intended on this occasion to say anything upon the *materializing* tendency of neurological speculations of the day, though it would not be difficult to show that there is some credulity, not to say fanaticism, in proclaiming that the feeling, thinking, willing, hoping, fearing, deserving, conscious entity, called the *mind*, is identical with its gross organs, whether muscular or nervous, spinal or cerebral. And as to its *locale*, it may not be altogether philosophical to advocate the exclusive claim of the back, or the stomach, or the heart, or the head. The sooner another Thomas Reid shall appear with his massive logic to destroy the snags and obstructions which are choking up the stream of mental philosophy, the better it will be, likewise, for physiology in general, and more especially for that part of it—*now the larger half*—which is claimed for the spinal cord—"*the sole seat of all the emotions, passions, and appetites!*" according to the Reflex School.

ART. II.—*Hemorrhage from the Liver.* By EDWARD G. LUDLOW, M.D., of New York.

A GENTLEMAN aged 58, of delicate frame, was taken ill on the 21st December last. He complained of great exhaustion, with pain in the right shoulder; his pulse was 65, and feeble; his tongue slightly coated, but moist; he was ordered pill hydg. at night, to be followed in the morning by eccoprotic mixture, with small doses of vin. tinct. colchici. Under this treatment his general symptoms improved. On the morning of the 3d January I saw him at 11 o'clock; he was reading the morning paper, and expressed himself better. At one o'clock I was sent for in great haste, and found him, on my arrival, cold and pulseless, complaining of agonizing pain in the abdomen, which was much alleviated by means of hot brandy and water, with tinct. opii and fomentations. He was relieved in about 15 minutes, when a slight spasm of the facial muscles was observed, and he expired.

With the aid of Dr. Sabine I made a post-mortem examination, of which the following notes were taken:—

External Appearances.—Body generally pale, with slight yellowish tinge; muscles rigid.

Chest.—Lungs slightly emphysematous and studded with spurious melanotic spots.

Heart.—Normal in size and thickness; semilunar valves of left side studded with slightly ossific deposit.

Abdomen.—On opening this cavity the intestines were found floating in fluid blood and serum, which was removed with numerous coagula—amounting to several pints, "half a chamber-full." On careful examination a laceration was found in the posterior part of the inferior concave surface of the right lobe of the liver, which was filled with a coagulum. The liver was carefully removed from the body, and on pressing the finger carefully into the rupture, it was carried into an extensive lacerated cavity extending upwards and backwards. On laying open the cavity an opening was discovered in the right hepatic vena cava, from which the fatal hemorrhage had taken place.

The rest of the viscera healthy, except the kidneys—both were encysted, particularly the left; the superior cyst of which would probably contain 10 ounces.

Abercrombie, in his Pathological Researches on the Diseases of the Stomach and Liver, relates the case of a gentleman mentioned by Andral, previously in perfect health, who, on getting up one morning, complained of some uneasiness in the abdomen, and returned to bed, where he was left alone for some time. When his attendants returned to the room he was dead. On inspection much extravasated blood was found in the cavity of the abdomen, which appeared to have proceeded from a lacerated opening in the substance of the liver. This led to a small cavity full of coagulated blood, and the hemorrhage was distinctly traced to the rupture of a branch of the vena porta.

[A case very similar to the above came under our notice a few years since, in the person of a married lady, aged 36, the mother of several children. She rose in the morning in perfect health; and, while standing before her looking-glass making her toilet, she felt a sudden pain in the region of the liver; not, however, so severe as to cause any serious inconvenience at the moment. She became faint in the course of an hour, and vomited; was unable to sit up, and sent for a physician, who called me in consultation. I found her almost pulseless, with cold extremities and surface; sunken, anxious expression of features, and a distressing sensation of sinking at the epigastrium. She grew gradually weaker and weaker, and expired in about ten hours from the time of the attack. *Post-mortem examination* revealed a laceration in the liver. The cavity of the abdomen contained more than a gallon of extravasated blood. All the other organs were healthy. Although no opening was found in the *vena cava*, there can be no doubt, we think, that the hemorrhage proceeded from that vessel.—*Ed. N. Y. Jour. of Med.*]

ART. III.—*A Case of Extra-Uterine Fœtation, in which a full-grown fœtus was successfully extracted about ten years after conception, by the Operation of Gastrotomy.* By ALEX. H. STEVENS, M.D.

MRS. RANDALL, a woman of slender frame, soon after marriage began to suffer from some functional disturbance of the uterus. In the early part of 1836, four years after her marriage, being then in the 23d year of her age, she became, as she supposed, pregnant for the first time.

After an interval of two months, while engaged in active exercise, she was suddenly seized with severe pain in the left hypogastrium. This attack, which at once assumed the character of peritoneal inflammation, lasted six weeks, and was treated by venesection, leeching, blistering, and other active antiphlogistic measures. Morning sickness, enlargement of the abdomen, and quickening, occurred at the usual time, and the breasts secreted milk. But during the whole term of her supposed pregnancy, she had slight sanguineous discharges from the uterus, at short and irregular intervals.

At the end of what she considered her full time, there were some equivocal symptoms of approaching labor; the sanguineous discharges were then upon her; she had no regular bearing-down pains; no pains in the back. What she considered signs of labor, were some peculiar spasmodic contractions in the muscular parietes of the abdomen ("twitchings of the belly," as she described them), which were overcome in a few hours by venesection and an anodyne draught. Up to this time the movements of the fœtus had been troublesome. They now became less frequent. About a month after what she calls her time of labor, while walking about the house, the struggles of the fœtus became suddenly so violent, that she "was obliged to force it downwards with both her hands, to prevent it from rising upward and suffocating her." After continuing for a few moments, the struggling ceased; and no movement was ever afterwards felt. The tumor now appeared to have changed its position, and to lie transversely across the lower part of the abdomen.

For the next six months she enjoyed a moderate share of health, though her size continued as great as at the end of her regular term. In July, 1837, she began to suffer much from habitual constipation, and occasional attacks of nausea and vomiting. For a period of fourteen days, she had no alvine evacuations whatever; and during this time the turns of nausea and vomiting were frequent. "All that should have passed by the bowels came upwards." But the ejections by the mouth consisted mostly of greenish watery fluid of a most offensive odor, and in very large quantities. As her bowels again began to resume their healthy action, the nausea became less frequent and obstinate. Her abdomen, she now discovered, had diminished somewhat in size. This change she attributed to the vast quantities of the offensive fluid ejected from her stomach. By degrees her general health returned. Her menses reappeared about the first of January, 1838. Her abdomen continued to diminish in size at the upper part; but still she had occasional returns of constipation, attended with nausea and vomiting. At times her abdomen would swell up rapidly, and as rapidly diminish to its usual size, after she had discharged from the bowels, for a day or two at a time, an offensive fluid similar to that which she had previously ejected by the mouth.

In October, 1839, her symptoms again became urgent. For eight days she had no alvine evacuation. Her abdomen became distended, and she had frequent and protracted turns of nausea and vomiting. She was then under the care of Dr. Leggett, and had been seen a few times by Dr. Miner. On the 7th of October, in connection with these gentlemen, she was seen by myself and Dr. John Watson. The following is a summary of her symptoms as recorded by him at that time :—

"The abdomen was as large as that of a woman at full term. There was a tumor as large as a full grown fœtus, lying across the lower part of the bowels, and reaching from the pubes nearly as high as the umbilicus, slightly, if at all, moveable. On examination per vaginam, the tumor was found occupying the upper strait of the pelvis, pressing firmly against the rectum and lower portion of the colon, and upon the bladder and uterus. The rest of the abdominal swelling was made up of gas and watery fluid, which latter was detected by percussion in either flank. The patient was extremely emaciated, and apprehensive that she had but a few days to live. At our second visit, Oct. 8th, a gum elastic catheter, of the largest size, for the urethra, was introduced into the rectum, with the view of throwing an injection through it. This was passed with much difficulty, and when introduced, the pressure of the tumor against the intestine was so great as to arrest the instrument, and to prevent the passage even of fluids through it. In the afternoon it was removed, and a firm œsophagous bougie was substituted for it, and introduced as far as the sigmoid flexure of the colon. This gave issue to a quantity of gas, and subsequently to about six quarts of fæcal matter, mostly fluid, of a most offensive odor. On the following day, Oct. 9th, the nausea and vomiting had ceased, the patient's countenance was cheerful, she was free from uneasiness, and her abdomen was much reduced in size. By careful inspection, it was now found that the tumor could be moved to some extent in a lateral direction, but could not be elevated. The mass lying above the pubes was continuous with the portion to be felt per vaginam. The neck of the uterus held its natural relations with the bladder and rectum, but the uterus appeared to be reclining towards the right side. After the bowels were relieved, as above stated, the patient quickly rallied, and in a few days afterwards was able to resume her household duties."

Subsequent to this last attack, for a period of more than six years, she continued to enjoy a fair measure of health, without a single return of her former attacks of nausea and vomiting. But on the 3d February, 1846, I was again called to see her by Dr. Miner, her condition having become alarming. She was suffering from distressing sensations in her bowels, as if "the child's bones were sticking into her," especially during defecation. She had long been obliged to take laxative medicine constantly, and was discharging two ounces or more of reddish purulent matter, intolerably offensive, with every fæcal evacuation. The urine is also offensive. She was sinking rapidly, and suffering from a dry, hacking cough. Her pulse ranged at about 120, and she had distinct hectic paroxysms. These symptoms had set in about the 25th December, when the first discharge of matter was noticed.

On an examination of the abdomen, the skin is found marked as in women who have borne children. The tumor, smaller than formerly to the left of the median line and chiefly below the umbilicus, an irregular sphere in form, flattened in its antero-posterior character, fixed to the

parietes of the abdomen, and resting rather firmly on the left sacro-iliac symphisis. The surface of the tumor presented a salient point on the right side, and a dark, large prominence towards the left iliac fossa sacro-iliac.

Here was a case well calculated to make a practitioner feel the weight of his responsibilities in forming a correct decision.

Was it right to have left the woman unrelieved in the year 1839? I so thought, for the diagnosis was not then so clear as now, and after the relief of her complaint her health became tolerably good. Yet an operation would be more dangerous now that the intestine (probably the termination of the colon) has become ulcerated, than at the former period. On the other hand, on a calculation of chances, the worth of her life without an operation is comparatively small. What are the chances with it? Though feeble, she has good moral courage, founded on trust in God, and unbounded confidence in her advisers. The fœtus is doubtless in a sac—may it not be safely removed? Dr. McKnight operated successfully in a case of this kind,* but this woman would not probably survive what his patient is described as having undergone. Moreover, the practicability of removing the fœtus safely is not quite certain. Some of the ablest surgeons of this city, about thirty years since, undertook an operation of this kind, and failing in it, the woman soon died. It is said they likewise supposed they had mistaken the case; but even this implies obscurity and difficulty in accomplishing the operation.

Again, here is a more complex case. The sac communicates with the intestine. Will the fæces enter the sac and cause fatal inflammation, or will the secretions of the sac after the operation pass off by the bowels? We believe—at any rate, we hope, the latter result. Let us try. The morrow is fixed for the operation. She stipulates that no one shall be present but Drs. Miner, father and son, Dr. John Watson, and Mr. Austin L. Sands, the doctor's student.

February 7th.—She is placed on a cot with the knees and shoulders elevated, and I am seated on her right. An incision about two inches long is made in the linea alba, over the site of tumor. After dividing the parietes of the abdomen the first object that presents itself is a collection of irregular roundish masses of a brownish red color, which prove to be omentum adhering to parts of the intestines and mesentery in various points; below these is the tumor felt to be extensively adherent to the surrounding parts in various portions of its exterior surface. Near the anterior central portion the tumor is a projecting prominence, which, being cut open at the suggestion of Dr. Miner, whose good judgment has often aided me, gives the feel of bone. It is cut off, and proves to be part of the foot of a fœtus. Now the case is clear and the sac opened. The tibia is next pulled out, and there issues from the opening four ounces or more of reddish thick fluid, with whiteish granular masses floating in it, and very fœtid. This is carefully soaked up. The incision is now enlarged to about three inches or rather more, and a fœtus of full size is slowly drawn out by the legs through the opening which lightly closes around it. After the

* Being on a professional visit to Schoharie county about ten years since, I chanced to see the subject of this case. There was an opening in the muscular parietes of the abdomen, large enough to receive the hand. The opening had been made about midway between the umbilicus and the anterior superior spinous process of the ilium.

removal of the fœtus, the principal bones of the head, excepting the upper and lower jaw which remained attached, are extracted from the bottom of the sac and the loose teeth. There remained sundry smaller bones partially buried in the sides of the sac, giving to it in some places the feel of coarse sand-paper. The operation had now lasted about twenty minutes. No vessel requiring a ligature had we cut. The woman had borne it without a struggle or a groan, but her countenance and pulse showed a pretty severe shock to the nervous system. The skin had become moist, rather cold, and the pulse had increased in frequency some eight or ten beats. Mr. Sands, the only pupil in attendance, thought he had seen strabismus. The wound was brought together by three stitches of the interrupted suture, excluding the peritonæum. These were supported by adhesive straps, and over them two lateral compresses, and three or four turns of a roller. Some cordial drink and a spoonful or two of oyster soup were given, and she remained in situ until afternoon, when she was carefully removed to her bed, the operation having been performed while she lay on a cot.

February 8th.—Pulse 126, and weak; abdomen beginning to be distended; has made water and vomited oyster soup. Egg with sugar and brandy is prescribed. In the afternoon more distension of the abdomen, an injection of catnip-tea is given to the bulk of one quart. It comes away without much discharge of wind or any purulent matter.

February 9th.—More distension of the abdomen, with a little soreness; pulse 132. No discharge through the wound. Fomentations with camphorated spirits; mustard poultice to the epigastrium; ice water or whatever she may fancy, to be taken ad libitum. P.M., pulse 124; more distension. Half an ounce olii recin, with some aromatic mustard and camphorated spirits as before.

February 10th.—A.M., the oil was retained; flatus and fæces discharged repeatedly and largely, with uniform relief after each discharge; looks better; has asked for and sucked a beef steak, and a little weak coffee; abdomen was swelled, indeed very little so; no increase of soreness; pulse fuller and reduced to 104.

February 11th.—Better in all respects; pulse 98.

February 12th.—The dressings were removed for the first time. About two-thirds of the wound had closed by the adhesive process. From the open portion of it there was a discharge of a pint or more of putrescent matter similar to that which was removed during the operation. For some time after this the dressings were renewed daily. The discharge gradually diminished in quantity, and improved in character. There never was any tending to protrusion of the bowels, or any considerable tympanitis.

February 16th.—The patient is sitting up. Subsequent to this date she attended to the dressing of the wound herself. This remained open about a month. After the external discharge had ceased, she had for a few days a return of the purulent discharges from the bowels, which had been arrested by the operation.

March 14th.—The patient has of late sat up most of the time, and occupied herself in sewing. To-day she left the room for the first time. The wound has given way anew once or twice at a small point, and allowed some purulent matter of a healthy character to be discharged. It now appears to be permanently closed again, and there is no longer any purulent discharge from the bowels. The cough that at one time

threatened to become troublesome has left her. She has not menstruated since the operation; but in other respects, to use her own expression, she is as well as ever she was in her life.

April 21st.—The patient is busied at her household duties. She is rapidly gaining flesh. The wound remains firmly closed—but she states that there is occasionally a slight discharge of thick, yellow, inodorous purulent matter from the bowels, attended with no uneasiness.

April 25th.—The discharge has apparently ceased.

It will not escape the attention of the physiologist, that the various symptoms of pregnancy supposed to depend upon the nervous connection of the uterus with the stomach occurred in this case, although the uterus was not directly implicated. Are we to look for the cause of these symptoms inthe altered condition of the blood dependent upon the supplies afforded to the growing fœtus ?

The period when suppurative discharge *per anum* first took place (*i.e.*, about six weeks before the operation), was undoubtedly that at which the intestine and tumor first communicated with one another; and then, too, putrefaction first commenced. The undecomposed condition of the contents of the chest and of the upper portion of the abdomen was owing, probably, to the exclusion of air from them—consequent to the doubling up of the fœtus.

Cases of extra-uterine fœtation are not very uncommon; but they terminate in death generally before the full period, by sudden hemorrhage arising from the rupture of the sac, or of the vessels uniting the fœtus to the mother; but this danger probably ceases soon after the death of the fœtus.

If the diagnosis could be made out with tolerable certainty, this risk as well as the more remote one of ulceration of the hollow viscera, would authorize an early operation.

In regard to the dangers of the operation itself, they do not appear to me greater than those of lithotomy. Those arising from simple exposure of the peritoneal cavity are probably less. The difficulty rather lies in finding a place for opening into the sac without compromitting other organs. I am inclined to think that an incision made directly upon the most projecting portion of the tumor, be it where it may, will be most likely to bring into view a part not covered with intestine. As adhesion may be expected to have taken place in other parts, a protrusion of the viscera, either during or after the operation, need not be apprehended. In the case I have related, I closed the wound exactly. Had there not been an outlet for the matter into the intestine, it would have been proper to have left it slightly open.

Another practical question arises as to the treatment of those cases in which the tumor is not producing great inconvenience. Should they be left alone, or, in view of ulceration of a hollow viscus taking place, ought an operation to be advised ? The best answer I can give to the question is, that when the tumor becomes fixed, or is pressing against the upper strait of the pelvis or other part, so as to interrupt defecation, that pressure, it may be presumed, will lead to ulceration at some future period—and this would form one pretty strong argument in favor of an operation before such ulceration had occurred. On the other hand, it is right to state that women do sometimes carry extra-uterine fœtuses during very long periods of time without great inconvenience. There is a case of this kind now in this city.

ART. IV.—*A Case of Amaurosis, caused by Lightning during Sleep.* By GEORGE M. MACLEAN, M.D., of New York.

ON the night of the 21st of July, 1845, a girl aged about 14 years, who was sleeping with her face towards an open window, was, during a thunder-shower, aroused sufficiently to perceive two flashes of lightning in immediate succession. She at once fell asleep again. On being called in the morning she was not able to open her eyes.

22d, 7 P.M.—The lids were closed, and of a bluish color. Upon separating them the eye moved involuntarily; the sclerotic was congested, and though there was no power of vision, yet a painful sensation was produced by the light. She also complained of pain in the back of the neck. There was very little febrile excitement. She did not think that her eyes were open at the time of the injury.

She was bled, in an upright posture, to approaching faintness. She took 10 grains of calomel, and was directed to take half an ounce of sulphate of magnesia in an hour, and to apply warm water to the eyes.

1 P.M.—No change in symptoms. The medicines had not operated; a blister to be applied to the back of the neck. The salts to be repeated.

10 P.M.—The medicines and blister had acted well. She had been able to see persons, and was quite comfortable. I directed her to apply water warm or cold, as was most agreeable to her, and to abstain from attempts to see.

23d.—Vision was clear; but she was somewhat intolerant of light. To use nauseating doses of tart. emet., and apply a weak watery infusion of opium.

24th.—The admission of light still producing pain, the blister was reapplied and dressed with savine ointment: the salts were repeated, and the tart. emet. and the infusion of opium continued.

Under this treatment she improved so rapidly as to go to service on the 29th: and had continued well till the middle of November, when I last heard from her.

ART. V.—*Extracts from the Recorded Proceedings of the New York Medical and Surgical Society.*

Case of Amaurotic Affection of the Eyes, enlargement and softening of the Heart, with disease of the Mitral Valves, and Granular Kidney, following Scarlatina.

DR. W. P. BUEL communicated the following case:—

On the 22d of October last, I was consulted on account of an amaurotic affection, by Mr. B., aged 28 years, of a tall and slender figure, by occupation a clerk, temperate and regular in his habits, and enjoying good health, until the last few months, though both his parents died with consumption. The pupils of the eyes were sluggish, and he had pain in the orbital region, with obscure vision. There was considerable anasarca of the face, which the patient ascribed to his having taken cold while under the influence of mercury which had been given him by another practitioner for the amaurosis. His pulse was about 100, and

feeble; his tongue pasty, appetite impaired, bowels costive. Has been able to attend his usual business up to this time.

Prescription. Blisters behind the ears, and veratrine lotion 10 grs. to the ounce, over the brows. Oct. 25.—I saw the patient again; no improvement in the symptoms. Anasarca of the face increased. I now proceeded to make an exploration of the chest. Found the lungs normal, but a decided bellows murmur, accompanying the first sound of the heart, and indicating disease either of the aortic or mitral valves.

At my request Dr. Swett saw the case in consultation at this time, and diagnosed disease of the mitral valves, and regurgitation into the auricle. The urine, on being subjected to heat and nitric acid, was found heavily charged with albumen.

A subsequent examination elicited from Mr. B. the following facts, which throw considerable light upon the symptoms:—In February preceding, he suffered under an attack of cutaneous affection, of the nature and name of which he was ignorant, but which, from the concurrent and subsequent circumstances, must have been scarlatina. After a confinement to the house for about a month, he was again able to resume business; but during the spring suffered with rheumatic affections of the joints. In the early part of the summer he began to be affected with the amaurosis, which was partially relieved for a time by an issue in the back of the neck.

In September, he made the discovery that his feet were swollen, by the difficulty he experienced in drawing on his boots in the morning. About the same time, he found that his face began to bloat. He had never suffered with palpitation of the heart, nor with pain about the cardiac region, or shortness of breath. He had himself no suspicion of the existence of disease of the heart.

From the 25th of October to the 16th November, he became gradually worse. His condition at the latter period was as follows:—Dimness of vision increased. Frequent and pretty profuse epistaxis. Every morning when he arose from bed *he was seized with vomiting; pain pretty severe about the epigastric and umbilical region*, for which a belladonna plaster was applied without any relief. His strength was impaired, and he was now able to walk only with difficulty. He was unable to sleep at night in the recumbent posture, but was obliged to have his chest elevated. This symptom, indicatory that effusion was taking place into the thoracic cavities, was corroborated by the usual physical signs.

On the 16th November he was removed by his friends some distance into the country. He made the journey without material discomfort, except that he suffered from profuse epistaxis. He died on the 30th November, with all the usual symptoms of effusion into the chest.

For the following account of the post-mortem appearances I am indebted to Dr. McCall, of Utica, who attended him during the last days of his life.

"All the limbs, especially the lower, and the cellular tissue beneath the skin, were more or less distended with water. The pericardium contained 8 oz.

"Thorax, 1 gallon, in which were found floating flocculent portions of coagulable lymph. Abdomen only about 1 qt. of water.

"Hypertrophy of the heart, weighing 1lb. avoirdupois; its tissues soft, and easily broken down.

"Mitral valves semi-cartilaginous, with several points of bony degeneration.

"Liver unusually large, weighing 4lbs., filling up the right side and extending in front upon the stomach, pressing up the diaphragm against the lungs.

"*Stomach and duodenum a good deal engorged, their mucous coat of a slate color;* I might say all the coats in the same condition, while other portions were nearly in a state of mortification, showing a serious chronic gastro-enteritis.

"Both kidneys manifesting clearly a granular disease; right more than the left."

Remarks.—As nothing is said by the Doctor of the lungs, it is presumed they were healthy. The head was probably not examined, so that we are ignorant whether any organic lesion existed in the brain, to account for the amaurosis. But the symptoms generally which existed during life, are well accounted for by the post-mortem appearances. The vomiting and pain in the epigastrium by the softening of the mucous coat of the stomach and duodenum, and the dropsical effusions, are abundantly accounted for by the disease both of the heart and of the kidneys. It is worthy of remark, that the enlarged liver was not accompanied by abdominal dropsy, except to a very small extent.

It is an interesting point in the case to determine how far the anasarca, which first manifested itself in September, eight months after the scarlatina, is to be considered a sequela of that disease. The albuminuria might have existed during the whole of it, a point which, of course, it is now impossible to determine. The patient was not aware from his own sensations of the existence of disease of the kidneys. He suffered no pain in the lumbar region, and did not pass water any more frequently than he had been in the habit of doing when in health.

A Case of Small Pox occurring five days after vaccination.—Progress of the vaccine disease arrested for ten days.

Dr. Alfred C. Post related the following case:—

Doctor C., who had previously resided in a small village in Connecticut, removed with his family to New York in August, 1845. He had three children, the eldest of whom was eleven years of age, the second seven years, and the third an infant at the breast. The eldest child had been successfully vaccinated in infancy: the others had never been vaccinated. During the month of September, the two younger children were vaccinated: the vaccination of the infant was entirely unsuccessful: that of the next child was followed by the occurrence of a vesicle, which the father thought to be genuine, but which left behind it a small ulcer, which remained unheeded three months.

On Friday, December 5th, the infant was taken sick with fever: on Tuesday, December 9th, a variolous eruption made its appearance, and soon became confluent over almost the whole body; on Tuesday, December 16th, the child died.

On Tuesday, December 9th, the day on which the eruption appeared upon the infant, the second child, a girl seven years of age, was again vaccinated. The vaccine disease pursued its regular course until Sunday, December 14th, when the patient was attacked with fever and delirium, which continued until Wednesday, December 17th, when the variolous eruption made its appearance upon the backs of the hands. The eruption subsequently appeared upon the chest, face, and

other parts of the body. It was confluent upon the backs of the hands and feet, coherent upon the extremities generally, and discrete upon the face and trunk. The delirium gradually subsided as the eruption came out, but a great degree of constitutional disturbance continued until the decline of the eruption, so much so that I did not regard the patient as being out of danger, until the process of desiccation had made considerable progress. The subsequent convalescence was very slow, several weeks having elapsed before she was able to walk. The variolous eruption was regular in its course, except that the pustules on their maturity were flatter than they usually are. The desiccation of the pustules commenced on Friday, December 26th, and was considerably advanced on the following days: on Sunday, 28th, it was nearly complete, except upon the feet. On Tuesday, December 16th, a week after vaccination, the vaccine vesicle was normal in appearance, with the exception that there was but a slight trace of an areola. During the subsequent week, it underwent no change, except that there was a little increase of size and fulness, and that it became opaque as the variolous eruption approached its maturity. It was distinguished from the variolous pustules by its large size and more regular form: several small variolous pustules coalesced with it at its circumference. On Thursday, December 25th, there was a slight incrustation at the central depression: there was very little increase of this on Friday and Saturday, so that there was less tendency to desiccation in the vaccine pustule than in the surrounding variolous pustules. On Sunday, December 28th, when the desiccation of the variolous pustules was almost complete, the vaccine pustule was found to have broken, and to have left behind it a superficial ulcer.

The above case presents several distinct points of interest. The most remarkable is the manner in which the progress of the vaccine disease was retarded by the occurrence of small-pox. The patient had been vaccinated five days at the time of the invasion of the variolous fever, and eight days when the eruption of small-pox made its appearance. The eruptive fever did not appear to affect the condition of the vaccine vesicle, except, perhaps, in preventing the formation of a distinct areola. But from the time that the small-pox eruption made its appearance, the vaccine disease remained nearly stationary, and did not go through its usual changes. It, however, increased a little in size, and the fluid contained in the vesicle became opaque, but it retained the distinct pustular character without desiccation until Saturday, Dec. 27th, eighteen days after vaccination, and ten days after the commencement of the variolous eruption.

The second point of interest is the failure of the vaccine disease to exert any material influence on the progress of the small-pox. It is probable that the vaccination which had been performed in September was spurious, and that it had no modifying influence on the subsequent variolous affection. The last vaccination, although it appeared to be genuine, had not reached a sufficiently advanced stage to exert any manifest influence in mitigating the severity of the small-pox. It may perhaps have retarded the occurrence of the eruption, which commenced twenty-four hours later than it usually does. But, considering the favorable age of the patient, the attack of small-pox was much more severe than in the average of cases, and, for nearly a fortnight, serious apprehensions were entertained as to the result.

Another interesting feature in the case is the fact that the eruption

was later in its appearance upon the face than on the upper extremities, and that it remained more discrete upon the head and trunk than upon the upper and lower extremities. After the eruption appeared upon the face, I directed a mask to be worn, composed of linen spread with mercurial ointment, with holes cut for the eyes, nose and mouth. This had the effect of arresting the development of the eruption on the parts which it covered, so that it remained throughout in the papular stage. This fact was verified by Dr. Bulkley, who saw the case about the time when the eruption had reached its maturity. I have on other occasions pursued a similar practice, and with satisfactory results.

Dr. John O. Stone reported the following cases :—

Hydrocele.—About six weeks ago I tapped a man for hydrocele, without injecting the sac ; two weeks subsequently he returned again and requested me to inject it. The sac had filled up, but was not tense. I tapped it and drew off the fluid, but some impediment had offered itself to the instrument, and although the contents of the sac were easily evacuated, yet the end of the canula was confined, and felt as if it had not fairly entered the tunica vaginalis ; I was confident that it had not entered, and in order to prove the fact threw in a syringe full of water, which escaped into the cellular membrane.

On withdrawing the canula, I found that the impediment to its entrance was occasioned by two hairs which grew from the scrotum, and had caught in the slit of the instrument.

I supposed, at the time, that the injection of water would be innocent ; but it was followed with inflammation and suppuration, so that I was obliged, at two different times, to incise the scrotum and connect the two incisions with a seton. The wounds soon healed, and I then discovered that the hydrocele had become cured.

The important points in this case are—1st, that water is, in itself, an irritating fluid, or that it became so by tearing up the cellular membrane of the scrotum ; 2d, that the inflammation, &c., of the cellular membrane sufficed to the cure of the hydrocele.

Cancer of the Penis.—About a fortnight ago an old man, aged sixty-two, came to me with this disease, which had existed for fifteen years. It had commenced with cracks on the prepuce, which became hard tumors, which finally ulcerated. The disease has now destroyed the whole glans and one half of the penis ; large and foul granulations covered the extremity, and had broken through the skin on both sides, so that the whole penis was involved in the disease. The secretions from the penis were offensive, and had excoriated the skin of the scrotum. His general health was feeble, and he had the unhealthy look of a person suffering from organic disease. On examining the groins one small gland was felt, but it was small and not larger than a pea ; but there was a tumor in the abdomen, perceptible through his dress, which at first sight was supposed to be connected with the cancer ; it had the feeling of a sac containing fluid ; on percussion it was resonant, especially at the upper part, and on pressing it firmly with the fist it retreated into the abdomen.

We were satisfied that it was a ventral hernia, and having found nothing that absolutely contradicted an operation, we determined to give the old man the best chance of recovery by amputating the penis close

to the pubes, and, out of regard to his feeble health, with as little loss of blood as possible.

The operation was performed as follows:—The skin of the pubes was raised and cut upwards from the penis; the skin was then drawn downwards, and a lower flap made so as to include all of the excoriated skin of the scrotum. Three arteries were tied. I then tied the penis firmly with a piece of tape, and while it was held by an assistant with a pair of polypus forceps, cut it off. The dorsalis penis artery with those of the cavernosa, were easily tied without the loss of a drop of blood. The oozing was trifling. The wound was dressed with wet lint.

It is now thirteen days since the operation. The wound has contracted fully two-thirds; he suffers much less inconvenience than before the operation; has no pain whatever, and his health has improved. He goes out daily, and constantly wears a gum elastic catheter to counteract any disposition to contraction in the orifice of the urethra.

Although nothing positive can be predicated of the ultimate success of the operation, I have some hopes that the disease will not return; and even if it does, I should think the operation justifiable for the purpose of procuring the cleanliness and comfort which this man enjoys.

The diseased penis resembled hardened lard both in look and feeling, and was nowhere of the nature of cartilage. The prepuce was found to have been dissected off from the body of the penis, nearly quite to the spot where it was amputated.

Strangulated Femoral Hernia.—A week ago yesterday, I was requested by Dr. Stouthoff to visit a delicate woman, about forty years of age, who had strangulated hernia. It had existed for many years, and she had been wearing a truss. On rising from bed she felt some pain in the groin, and found that the hernia was down, and would not be returned. The symptoms were very slight; pulse hardly excited; some vomiting, and once in a great while a single hiccough. I directed an enema of salt and water, and still later, a paper of fine cut tobacco dipped in hot water as poultice to the part. I also bled her twenty ounces of blood, when fainting came on. All our efforts at the taxis were unavailing. She was put upon opium for the night.

The next day her situation was the same, with perhaps a little more excitement in the pulse. A new trial of the taxis failing, I performed the operation.

The coverings to the hernia were very thin, as might have been expected in so spare a person. Having divided the stricture upwards and inwards towards the pubes, I could not return the bowel, and was obliged to cut again in an upward direction; perhaps I might have returned it if I had drawn the intestine a little from the abdomen before making the attempt. The omentum adhered to the sac, and after the division of the stricture bled freely; this was allowed for a time, and then was returned with the sac into the abdomen.

On the second day after the operation she had considerable fever; pulse 110, with pain towards the groin, which was increased by a cough, which had existed for some time. Ordered eight leeches to the side, which relieved the pain; but towards evening the cough became more urgent, and applying my ear to the chest detected crepitation. Directed a blister to be applied to the sternum, and gave a pill of calomel, ipecac. and opium every six hours.

On the third day the cough was troublesome and the sputa tinged with blood; pain in the side only felt on coughing; belly not swelled or painful. Yesterday's treatment was continued until the mouth became a little sore.

We had pneumonia to complicate the disease, but it gradually yielded. The pulse is now at 70; there is no pain; cough continues, but is not severe. The wound is suppurating and is partially healed. She has lived for a whole week on flax-seed tea with the exception of yesterday, when she took a little gruel. In a few days more she will be well.

Alveolar Tumor.—This morning a young man came to me with a fistula under the jaw and a cartilaginous tumor in the mouth, measuring more than an inch one way, and two-thirds of an inch the other, completely concealing from sight a decayed tooth, which, however, could be felt with the finger. In using the punch in order to loosen the tooth, I broke off a portion of the socket, from which the tumor originated, and took away the tumor. I thus obtained a fair sight of the tooth, and extracted it.

Dr. S. P. White related a case attended with some obscurity. He believed it to be "spasm of the gall-duct;" the patient is still under treatment. Dr. Post had seen the patient and felt a retroversion of the uterus, occurring between the delivery of the fœtus and that of the placenta. The patient was a young married woman, pregnant for the second time. Her last menstrual period occurred on the 22d of November. Two weeks ago she was taken with a slight colored discharge, similar to the menstrual flux. At half past one A. M., she was awakened by a pain and flooding. At three o'clock she was seen by Dr. P., who on examining the coagula found an embryo about an inch in length; on introducing the finger, the os tincæ was found to be in its natural situation; the membranes protruding; no advance being made, ergot was ordered and the patient left. In the morning on returning a second time, Dr. P. found that the patient had been carried by her husband from the room which she had occupied, across a second into a third; examining he found that the position of the uterus was changed, the broad side of the organ was first reached by the finger; the fundus was in the hollow of the sacrum and the os tincæ tight up under the pubis. In the course of two hours the placenta was delivered, and the uterus was found to have recovered its natural position.

Dr. Stewart was called four months ago to a patient aged ——— who complained of pain beneath the right breast below the nipple; she likewise complained of a sensation as if some foreign body was present. On careful examination neither swelling nor any other alteration of the normal condition of the part could be discovered. Anodyne applications were ordered. Two or three weeks afterwards the pain left the right and attacked the left breast; a few days afterwards it appeared in the left side. After an interval of two months there was pain and swelling in the groin, a foreign body being detected, a needle was extracted. Reference was had by several of the members to a number of cases, in which pins and needles had been discovered in the heart and other parts of the body. Among others, Dr. Blakeman mentioned a case in which in dissection, a pin had been found imbedded in the liver of a patient who had died of disease of a different organ.

ART. VI.—*Notes on Typhoid, and Typhus Fevers.* By the EDITOR.

[CONTINUED.]

IN the abdomen the morbid changes were more important. The peritoneum was sometimes found extensively and highly inflamed. In the greater number it was not particularly affected. The condition of the stomach is noted in thirty-two cases. In seventeen it was nearly or quite healthy; in six there were ulcerations in the mucous membrane, in one case perforating it, in the remaining five small and superficial: in five the mucous membrane was softened more or less extensively, but in no case thickened; and in five it was somewhat mamelonated.

"In the small intestines, the mucous membrane generally was healthy, except that it was often of a deep-red color in the lower part of the ileum, and sometimes a little softened."

Dr. Hale next speaks of the appearance of Peyer's glands in their natural state, and describes the changes produced by disease. He notices four classes of appearances, according to the stage of disease in which the patient has died. When this occurs early, there is a well-defined, uniform thickening of the altered patch, commonly of a light-red color, over the whole surface, sometimes surrounded by a deeper-red line, the intervening surface being softened, and studded with numerous minute, white, opaque points. Twenty or more of these patches are often discovered. They are most numerous at the lower extremity of the small intestines, and the disease is always more advanced in those near the cœcum than at a greater distance.

In a somewhat later stage, ulcerations are observed in some of the diseased patches. They are of different sizes, sometimes quite small, at others occupying nearly the whole patch. They are situated in the submucous cellular coat of the intestine, laying bare, and sometimes destroying the muscular coat; in some instances they penetrate the peritoneal coat. In these there is the same evidence of greater progress in the patches near the cœcum. Not unfrequently there is a particularly large and deep ulcer almost or quite in the cœcal valve, while some elevated patches higher up are free from ulceration.

In cases where the patient has relapsed after a temporary convalescence, when he dies of pneumonia, or other cause, after a long struggle, the ulcerations of Peyer's glands are found cicatrized. The margin is of a bluish or greyish color, and sometimes the color is diffused over the whole patch, and a delicate mucous membrane is found extended over the cicatrized surface. The cicatrization is found farther advanced near the termination of the ileum than above, showing, as in the other cases, that the affection of the glands began in this part.

The fourth class of appearances are formed by perforation of the intestine. This is of various depths; sometimes it takes place in the peritoneal coat, and the contents of the intestine are poured into the peritoneal cavity, producing violent inflammation and speedy death. This termination is not confined to cases that have been previously remarkably severe. It often occurs in those, at first, of a mild character. The patient has been walking about the room, with a confidence of a speedy recovery, when he has been suddenly seized with excruciating pain in the abdomen, and died in a few hours. There are no intimations by which the danger of this occurrence can be foreseen.

In one or more of these modifications, an affection of Peyer's glands is found in every case of typhoid fever. Out of the thirty-three cases, nine presented only the first stage of this affection; thickening, softening, and a red surface. In eighteen, while some of the diseased patches were in this stage, others, near the lower extremity of the intestine, had passed into ulceration, the ulcers varying in number from two or three to twenty or more. In three, some of the ulcers near the cœcum had been cicatrized; and in three the intestine was perforated. The perforation was, in no instance, in the ulcer nearest the cœcal valve, and in one case it was at a distance of four inches. The periods when these changes occur are various. In two, ulcerations were found before the twentieth day; while in one the disease had continued for months, and there were but three ulcers, and no cicatrization.

The solitary glands in the small intestines were enlarged in fifteen cases. In eleven they were not visible, and in seventeen they were not mentioned in the record; probably they were not enlarged. The affection of these glands was chiefly found in the lower portion of the intestine. In the large intestines the solitary glands were found enlarged in five cases; healthy in seven; and in six they are not mentioned. In two the mucous membrane was softened. In seventeen, ulcers, quite numerous, were found in the cœcum, or first part of the colon. These ulcerations were not large, like many of those in Peyer's glands, but small and distinct. In one case, in which the immediate cause of death was hemorrhage from the bowels, a firm coagulum of blood was found hanging from an ulcer in the cœcum, showing the source of the hemorrhage. In this, and many other cases of hemorrhage, both the large and small intestines contained a considerable quantity of blood.

The condition of the mesenteric glands corresponded to the state of disease of the intestinal canal. Those glands which belonged to the healthy portion of the intestine were healthy, while those of the diseased part were enlarged, red, and infiltrated. At later stages they were found softened, and sometimes suppurated.

The liver was examined in twenty-seven cases. Its structure was healthy in fourteen; more or less soft and friable in ten; hard in one; congested in one; and in one the serous coat of the left lobe was highly inflamed, and covered with a coating of lymph.

The spleen was large in twenty-one cases. In some it was enlarged to twice or thrice the natural size, and then commonly soft in its internal texture, breaking down by pressure into a sort of thick, dark-red fluid. In seven cases it was of its natural size; in two small; in two its condition was not noted.

Dr. Hale gives an abridged history of four cases, one in illustration of each of the forms in which he has described Peyer's glands as affected.

He next proceeds to inquire as to what extent the same morbid appearances are to be found in other acute diseases. For this purpose he examined the records of 159 cases of acute diseases at the hospital. Of these, eighteen were fatal, and fifteen were examined after death. Sufficient data were not found for a comparison of the state of the head, lungs, and heart. The stomach was noted as healthy, or nearly so, in seven cases; the mucous membrane was mamelonated in three; and in five its condition was not particularly described.

The state of Peyer's glands is referred to eleven cases, in all of

which they were healthy. In two the organs of the abdomen are declared healthy; in two no reference is made to them. Dr. Hale mentions six other cases of similar diseases, in all of which they were healthy. He states that there is no other disease except typhoid fever in which these glands have been found diseased in the adult. In phthisis they are the seat of ulceration and of tubercular deposits, but the appearances do not resemble the thickening and ulceration of typhoid fever.

In teething children the glands are affected in precisely the same manner as in typhoid fever. Dr. Hale has seen six cases in his practice of children who have died during teething, in which the glands were thus affected.

In four of the fifteen cases of acute disease before referred to, the solitary glands of the small intestines are noticed as enlarged; and in one they were ulcerated in the cœcum. In the remaining eleven they are not mentioned; probably because no disease was observed in them. The spleen was mentioned in three cases; in four it was small, and in three of natural size, or healthy. In one case where it was large, and in two where it was small, its texture was soft. The liver was examined in all the fifteen cases. It was healthy in seven, and somewhat soft or friable in eight. In three it was large, in three small, and in nine its size was not noticed as unnatural. The other organs furnished no points of comparison to demand attention.

From this statement, it appears that the spleen, stomach and liver, were affected in a less proportion of cases than occurred in the observations of Louis. Dr. Hale, however, considers the only essential difference between the fever of Paris and New England to be in the greater frequency of diarrhœa in the latter. This difference is, however, the same in other acute diseases.

The appearances, on dissection, as given by Dr. Hale, correspond very closely with those recorded by Louis and Chomel, as witnessed in the typhoid fever of Paris. The anatomical characters are various and complex, corresponding in this respect to its symptomatology; most of them are, doubtless, accidental, and it is difficult to determine, with any degree of certainty, what relation the most constant and essential of them bear to the disease itself.

The affection of Peyer's glands is, undoubtedly, the most important characteristic of the disease; but we cannot regard this as primary, and the cause of the other morbid phenomena. It may be one of the earliest pathological changes that takes place in the solids; but it remains to be proved that it is invariably present, or that, when present, it gives rise to the existing symptoms. On this point, some of our writers have drawn hasty conclusions from a too limited array of facts. That typhoid fever is not a gastro-enterite, is very certain; neither is it a dothinenterite; for its severity bears no constant relation to the intensity of the local disease. The phenomena of the disease cannot be satisfactorily explained from the local lesions of the intestinal canal. In short, we hold, with Bartlett, that "it is much more philosophical and satisfactory, much more in accordance with what is seen in many other diseases, to regard the lesion of the elliptical plates, not as the local cause of all the other appreciable phenomena of typhoid fever, but as constituting one of the pathological elements in a very obscure and complex disease; all which elements—and this quite as much as the others—are themselves the result of some morbific agent, or influence, or process, the nature,

sources, and operation of which are wholly unknown to us."* Dr. B. supposes that the lesion of the elliptical plates bears the same relation to typhoid fever as that which their several characteristic eruptions bear to measles, scarlatina, and small-pox; in none of which can we regard the cutaneous eruptions as the causes of the symptoms and of the other various phenomena which go to make up the several diseases themselves. The *causes* of typhoid fever are as yet but imperfectly understood; *age* has a powerful influence in its production, as, in 291 cases occurring in the Massachusetts General Hospital, and analyzed by Dr. Jackson, the average age was about 22 years and a third; of 138 cases reported by Louis, 59 were between the ages of 18 and 30; and of 117 cases mentioned by Chomel, 91 were between the ages of 18 and 30 years. Louis and Chomel, also, have shown that *recency of residence* in a place, especially in cities, has an important influence in predisposing to the disease. Typhoid fever is regarded by some, and, perhaps, a majority, of our practising physicians, as decidedly *contagious*. Dr. Nathan Smith, a capital observer, considered the disease to be as contagious as small-pox or measles, and gives instances where it was apparently propagated from one individual to another. Louis has also lately expressed his belief in the same doctrine.

We have observed that typhoid fever (the *typhus* of Nathan Smith, Gallup, and others) is the prevailing fever in the Eastern States, and some believe that no other fever is met with in that region of country; it prevails in a sporadic form, however, in nearly every section of the Union, especially in the winter months. Dr. Bartlett states that he has seen it in Kentucky, where it is sometimes called the *red tongue fever*.—(Loc. cit.) Dr. J. P. Mettauer has given an account of the prevalence of the disease in Middle Southern Virginia during the thirteen years from 1816 to 1829, during which time he states that he treated more than 400 cases of it. Dr. M. regards synocha, typhoid, and typhus, as varieties of the same fever; and states that they all prevailed at different times in the same region of the country. The synocha, "which was only the more open and well-developed form of the disease," prevailed during dry and warm, and warm and damp seasons, and always as an endemico-epidemic of considerable extent. The typhus and typhoid fevers were generally confined to malarious districts; and typhus did not often make its appearance until many cases of the typhoid affection had previously occurred in a family.† The typhoid fever has been very rife in the interior of the State of New York for several years past, and has gradually spread over the whole of the Western States,‡ where, at times, it has caused considerable mortality. The migratory character of this disease is one of its most singular features. It is also extensively prevalent in the large manufacturing villages of New England, occurring far more frequently in some years and seasons than in others.

Like other fevers, the typhoid assumes many *forms* and *varieties;*

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* "The History, Diagnosis, and Treatment of Typhoid and Typhus Fever," &c. By Elisha Bartlett, M.D. Phila., 1842. 8vo.

† "Practical Observations on Continued Fever, as it prevailed in Middle Southern Virginia during the thirteen years from 1816 to 1829 inclusive." By John P. Mettauer, M.D., of Virginia. American Journal of Medical Science, July, 1843.

‡ Causes of Death in Typhoid Fever." By B. Rush Mitchell, of Ohio. Western Lancet, October, 1844, p. 268.

Louis makes three, one of which depends on the severity of the disease; Chomel describes several, as the *inflammatory*, the *bilious*, the *mucous*, the *ataxic*, and the *adynamic*, depending on the predominance of certain symptoms. One form is called by Louis *latent*, where the usual morbid phenomena are not manifested. In some seasons the disease will be mild, and the mortality small; while in others it will be severe and very fatal, the treatment being the same. Thus, in the Massachusetts General Hospital, from 1822 to 1835, there were 303 cases of typhoid fever, and 42 deaths, or about 1 in 7; in 1830, the deaths were 1 in 3½; in 1831, 1 in 14½; in 1829, 1 in 25. From 1832 to 1835, the number of cases was 129, and the number of deaths 22, being a mortality of 1 in a little less than 6; while, from 1836 to 1838, the number of cases was 108, and the number of deaths 7, or 1 in 15. From November, 1836, to November, 1838, there were fifty-five successive cases without a single death; and the treatment was essentially the same during the whole of these periods. The *duration* of the disease in this country varies, in different years, from eighteen to twenty-six days. In 255 cases treated in the Massachusetts General Hospital, between the years 1824 and 1838, the average duration, reckoning to the beginning of convalescence, was twenty-two days; and of 186 cases at the same hospital, between October 1st, 1833, and October 1st, 1839, the average duration was thirty-nine days.*

According to Nathan Smith, the disease rarely terminates under the fourteenth day from the commencement, and rarely extends beyond the sixtieth.† Relapses are not unfrequent in this disease, and it is not often complicated with other affections. Peritonitis, from perforation of the intestine, is not an uncommon accident. Of the diagnosis and prognosis we have already incidentally spoken. We may add that an extremely frequent pulse is a very dangerous symptom; so, also, are the noisy, irregular respiration, violent delirium, deep somnolence and coma, epileptic convulsions, or subsultus tendinum, great restlessness and agitation, the Hippocratic face, severe diarrhœa, involuntary discharges, hemorrhage from the bowels, retention of urine, erysipelas, &c. The prognosis can rarely be positive, as patients often recover from the most desperate condition.

In the present stage of our knowledge, then, it is impossible, perhaps, to determine whether the disease, of which we have now given an account, be a specific one; or whether it be but a variety of our continued fever, of which we have, according to some writers, an *inflammatory*, and, as recognized by our best observers, a true *typhus;* and occasionally that form called *spotted fever*. We are inclined to take the latter view of the subject, and think it desirable, as already remarked (considering the necessity of retaining the term *typhoid* to express a state of the system met with in other diseases), to designate the phenomena of this fever by the name *abdominal typhus*, the name assigned to it by German writers. The fact of its general prevalence over our country, and that its ravages are gradually extending every year, must be our apology for the space allotted to it on these pages.

The treatment of typhoid fever will hereafter be considered.

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* Jackson's Report on Typhoid Fever, pp. 108, 109, 110, 111. Hale on the Typhoid Fever of New England, p. 268.

† Smith's Medical and Surgical Memoirs, p. 56.

Typhus Fever.—That a form of fever corresponding to the typhus of Great Britain, in which there are no anatomical lesions corresponding to those described as characterizing the typhoid fever of Louis, is now generally admitted as prevailing at times in our country. It is the fever that attacks the inmates of our almshouses and passengers on board of emigrant vessels, and many such cases are annually received into the hospitals of this city. In March, 1842, the ship Eutaw arrived at New York, after a passage of forty-two days, from Liverpool, with two hundred Irish passengers, of whom seventy were sick with typhus on her arrival. Among these there were eight deaths. In May, 1842, the bark Barlow arrived at this port from Greenock, after a passage of forty days, with fifty typhus patients, there having been three deaths before her arrival. And in August, 1840, twenty-one cases of typhus fever were admitted from a single vessel into the Boston Almshouse, of which four proved fatal. The prominent symptoms in these cases were, dullness of mind, deafness, stupor, suffusion of the eyes, and dinginess of the skin. The bowels were torpid, and there was rarely any meteorism or pain in the bowels, as in the typhoid variety. Dr. A. S. Doane, late quarantine physician of the port of New York, and who treated much of the disease, states that the most striking and constant phenomena attending it were, injection of the eyes, fuliginous aspect of skin, and deafness. Diarrhœa was rarely observed, and the alvine discharges, when procured by medicine, were dark and offensive. The disease was evidently contagious, and Dr. D. remarks that during his connexion with the Institution, a period of about three years, there were no less than sixteen individuals connected with the hospital who died of typhus fever contracted from the emigrant patients.* True typhus has at different times prevailed epidemically in the almshouses of this city, attacking nurses and physicians, and often proving very fatal. We have treated many cases of the disease in this city, in individuals from on board passenger vessels, and in the narrow lanes, and crowded, filthy apartments of that class who apply to dispensaries for medical aid, and we have had abundant evidence of its contagiousness, as well as opportunities for observing its characteristic phenomena. In 1843, some forty cases of genuine typhus occurred in the immediate neighborhood of an establishment in this city for the manufacture of lard oil from putrid pork, five of which came under our treatment in a single family; all were marked by delirium and coma, dusky hue of skin, subsultus tendinum, constipated bowels, a thick, yellowish, pasty fur upon the tongue, hot skin, and full pulse, &c., and their average duration was about thirty-five days. In these cases, there was no doubt whatever that the exciting cause of the disease was the emanations from the putrid meat. We have alluded to a typhus fever described by

* According to Dr Gerhard, the spotted fever was similar in its nature to the British typhus. Dr. J. Jackson thinks it was a different disease. Dr. Bartlett remarks that, in many important particulars, it bore a very striking resemblance to true typhus. Dr. E. North called it a *new petechial malignant typhus*, which seems a very appropriate name. Dr. Hale speaks of many points of resemblance between it and Dr. Armstrong's typhus, and also notices many strong points of difference. Dr. Bartlett has remarked that it seems to belong to that class of new and more or less temporary epidemics, each having its peculiar character, marked by its peculiar phenomena, and depending upon new and peculiar combinations of unknown morbific influences, which have always, from time to time, made their appearance, rather than to the class of established and permanent maladies.

Dr. Mettauer as having prevailed for a period of thirteen years in Middle Southern Virginia (*Am. Jour. Med. Sci., July*, 1843), and which was attributed by him to malarious causes, and propagated, especially in the cold season, by personal contagion, or idio-malaria. The blacks were most subject to this form of fever. According to Dr. Gerhard, the epidemics which overran the Middle States between the years 1812 and 1820, were of typhus fever; and of this disease Drs. Rush, Wistar, and Dorsey died. As a very perfect analysis of the symptoms of this disease, we quote the following from the work of Dr. Bartlett (*loc. cit.*):

"This disease, in the present state of our knowledge respecting it, may be defined in the following terms: Typhus fever is an acute affection; occurring at all ages of life; attacking, at least in cities, somewhat more frequently persons who are recent than those who are old or permanent residents; often transmitted directly from one individual to another; very much more common in the British Islands than anywhere else, although prevailing at times in other countries, generally in the form of circumscribed epidemics; often connected with the crowding of many persons into small, dark, and poorly ventilated apartments, amid filth and destitution; sometimes sudden and sometimes gradual in its access; attended at its commencement with chills, usually slight, and in many instances repeated; then with morbid heat of the skin, in many cases very intense and pungent; with increased quickness, with softness and feebleness of the pulse; with accelerated respiration; in many cases with the physical signs of bronchitis and pulmonary congestion; with pain in the head, back and limbs; dulness and perversion of the powers of the mind; drowsiness or stupor; dizziness, deafness, and ringing or buzzing in the ears; morbid sensibility of the skin and muscles on pressure; extreme prostration of muscular strength; spasmodic twitchings of certain muscles; dull and stupid expression of the countenance; fuliginous flush of the face; suffusion of the eyes; with loss of appetite and with thirst; sometimes with a slightly altered tongue, but in grave cases with a dry, red, brown, or black and fissured state of this organ; sordes upon the teeth and gums; occasional nausea and vomiting; frequently with a constipated or sluggish state of the bowels; epigastric and abdominal pain and tenderness; the skin of the body and extremities being generally the seat of an abundant eruption, coming out, in most cases, between the fourth and seventh day of the disease, and declining at uncertain periods during the second and third week, consisting of small spots, generally somewhat obscurely defined and irregularly shaped, not infrequently grouped and confluent, of a dusky, dingy red color, not elevated above the surrounding surface, and disappearing only imperfectly, or not at all, on pressure; the body of the patient, in grave cases, giving out a pungent, offensive, and ammoniacal odor; which symptoms differ very widely in their duration, in their march, in their severity, and in their combinations in different cases, several of them being frequently wanting, but enough of them being generally present to characterize the disease; the most constant of which are the loss of strength, the stupor, the suffusion of the eyes, the fuliginous skin, and the dusky cutaneous eruption; which symptoms may either gradually diminish in severity, and finally disappear between the seventh and thirtieth day of the disease; or may increase in severity and terminate in death between the third and twentieth day from their access, the liability to a fatal termination being much less early than late in life; the bodies of patients exhibiting, on examination

after death, no constant pathological changes of any of the organs; but in a considerable, though varying proportion of cases, engorgement of the vessels of the brain, with moderate sub-arachnoid serous effusion; engorgement of the posterior portion of the lungs; redness of the mucous membrane of the bronchia; softening, or mamelonation of the mucous membrane of the stomach; the blood being generally of a dark color, often fluid, or grumous; the coagula, when formed, soft and non-fibrinous; and the body, in many cases, running rapidly into decomposition; which disease, thus characterized and defined, constitutes a peculiar, individual affection, differing essentially from all others, although related by many analogies to typhoid fever."

It is still in dispute whether there exists any essential diagnostic character between the typhus fever above described, and the typhoid fever of Paris and America. On this subject the following remarks of Dr. Gerhard are in point:

"On considering the symptoms of typhus and typhoid fevers, we observe that the latter disease is not confined to any particular season. It commonly attacks individuals of a particular age, and exposed to some unaccustomed mode of life. It sometimes occurs at the same time that an epidemic of autumnal remittent or of typhus exists. I have seen it under both these circumstances, but I have always observed symptoms which distinguished it from either. There could be no doubt of the correctness of the diagnosis, for it was not made in private practice, but in hospitals, where there were always a number of physicians and pupils present to correct and verify the facts.

"These remarks are designed to show that the distinctive characters of these fevers are not such as in practice to allow them to be confounded together. Nor was it very difficult to acquire the facility of diagnosis, as all the better-instructed students easily attained it. That the very early stages of typhus and typhoid fevers resemble each other is true; but in no greater degree than in the early stages of typhoid fever and smallpox, which I have known to be mistaken for each other by the most experienced observers. When the initial period of the fever is passed, the disease may be readily distinguished. Even very early, before the fever assumes its characteristic appearance, there is usually some fact which may throw light upon its nature.

"1. Dothinenteritis is usually a sporadic disease, although it sometimes appears as a wide-spread epidemic. In the latter case the symptoms are so well marked, that these are never doubtful, except in a few of the earliest examples. Now typhus is very rarely sporadic; and if scattering cases do occur, they are generally connected with an epidemic and follow it, as scattering cases of cholera were observed for a long time after the great epidemic of 1832.

"2. Typhus is evidently very contagious; in the epidemic of 1836 it was quite as contagious as small-pox. I am fully convinced of its contagious nature from extensive observation as a physician to the hospital, and from the official visits and inquiries which I made as a member of the Board of Health. Dothinenteritis is certainly not contagious under ordinary circumstances, although in some epidemics we have strong reason to believe that it becomes so. It bears in this respect the same relation to typhus fever that measles do to small-pox.

"3. The initial symptoms of the two affections chiefly differ in the

greater stupor, dulness, and prostration of typhus, which are in strong contrast to the moderate cephalalgia and disturbance of the senses in dothinenteritis.

"Still, there are now and then, perhaps once in twenty or thirty cases, some symptoms which are apparently common to the two forms of fever. Just as in the diagnosis of measles and scarlatina there is usually no difficulty; but we sometimes see cases of a hybrid character in which the most experienced physicians may be doubtful. In two or three cases out of three hundred, the symptoms of typhus and typhoid fever seemed blended together; but these were slight forms of disease, which are necessarily less distinct than those of a more severe type. In practice, such cases are too rare to give rise to any difficulty.

"The more severe cases of dothinenteritis sometimes resemble typhus fever very closely, but the resemblance is confined to the symptoms offered by the patient in the most aggravated period of the disease, and does not extend to the succession of symptoms. Indeed, if these cases of typhoid fever are examined at the early stages of the disease, they are certainly more characteristic than the slighter varieties; and although the symptoms occurring during a single day would lead us into error, the comparison of the successive changes will always guide us.

"When the disease is completely formed, the characters on which the distinction between the two forms of fevers rest are, 1. The suffusion of the eyes, which occurs in every case, or nearly every case, of typhus fever, with the dusky-red aspect of the countenance; 2. The extreme stupor and inactivity of the mind, even when positive delirium does not exist; 3. We also observe in typhus no constant abdominal symptom, and at first merely dulness on percussion and feebleness of respiration at the posterior surface of the lungs; 4. If to these symptoms be added the peculiar eruption of petechiæ, which is scarcely ever absent in whites, there remains hardly a possibility of error. In the typhoid fever, we consider as distinctive characters the prostration, the somnolence, the slow development of nervous symptoms, which are not so strongly marked as in typhus. The abdominal symptoms are tympanitis, pains in the abdomen, and diarrhœa The sibilant rhonchus is heard in the chest; and, lastly, there is an eruption of rose-colored papulæ and sudamina upon the skin.

"It is not necessary to insist upon the diagnosis between typhus and the ordinary autumnal remittents. The peculiar season at which these latter diseases originate, their progress and termination, all differ too widely from the symptoms of typhus to allow of error, without extreme inaccuracy of observation.

"Some rare cases of pneumonia, especially when they occur in drunkards or patients whose constitutions are enfeebled from other causes, resemble typhus in many particulars. Indeed, the diagnosis is vastly difficult, were it not for the petechial eruption, as the stupor is sometimes considerable, and the suffusion of the face and eyes nearly as great as in typhus. If in these cases we are totally without knowledge of the early circumstances, we may occasionally mistake a case of pneumonia for typhus fever. But we could scarcely confound the pneumonia, which appears as a mere complication in typhus, with the original inflammation of the lungs. In some of these cases we derive less benefit than we could anticipate from the physical signs, because pneumonia

may be present and be readily distinguished by auscultation, but, at the same time, be strictly secondary. Neither bronchitis nor angina resembles typhus, unless they occur as an epidemic."—(*Am. Jour. Med. Sciences*, vol. xx., p. 307.)

It remains for future observations to determine the precise relations which these diseases hold towards each other.

[*To be continued.*]

ART. VII.—*Obstetriciana.* By BENNET DOWLER, M.D., of New Orleans.

THE title of this paper I use as a sort of *carte blanche*, to ramble where I please, without attempting to write a monograph. The artist who painted a sign, with a horse on one side and a bear on the other, finding that people could not tell the difference, wrote the name under each. This I shall not do with the *dramatis personæ* in these sketches, most of whom are beyond the reach of praise or blame. The "all-atoning power of the grave" generally silences malice itself. But to correct errors affecting health and life, to turn away occasionally from the realms of romance and its imaginary woes, to the realities of life; in a word, to consider the silent but courageous sufferings of woman, with the aim of lessening evils not wholly removable, are objects of greater importance than the triumphs of Alexander, or the discoveries of Newton.

The following passage from the life of Mungo Park, by Sir Walter Scott (Fam. Lib., No. 105), represents obstetrical life, with some exceptions, in Western Virginia, which now contains more than half of the white population of the State:

"There is no creature in Scotland that works harder and is more poorly requited than the country doctor, unless, perhaps, it may be his horse. Such a rural man of medicines is usually the inhabitant of some petty borough or village, which forms the central point of his practice. But besides attending to such cases as the village may afford, he is day and night at the service of any one who may command his assistance within the circle of 40 miles in diameter [mine in Virginia was double that], untraversed by roads in many directions, and including moors, mountains, rivers and lakes. For late and dangerous journeys through an inaccessible country; for services the most essential, rendered at the expense of his own health and life, he receives at best a very moderate recompense, often one which is totally inadequate, and very frequently none whatever. He mounts at midnight, and traverses in darkness, paths which, to those less accustomed to them, seem formidable in daylight; through straits where the slightest aberration would plunge him into a morass, or throw him over a precipice, on to cabins which his horse might ride over without knowing that they lay in his way, unless he happened to fall through the roofs. When he arrives at such a stately termination of his journey, where his services are required either to bring a wretch into the world or prevent one from leaving it, the scene of misery is often such, that, far from touching the hard saved shillings which are gratefully offered him, he bestows his medicines, as well as his attendance, for charity. I have heard the celebrated traveller, Mungo Park, who had experienced both courses of life, rather give the preference to travelling as a discoverer in Africa. He mentioned having once upon a time ridden 40 miles, sat up all night, and successfully assisted a woman under the influence of the primitive curse, for which his only remuneration was a roasted potatoe and a draught of buttermilk. But his was not the heart which grudged the labor that relieved human misery."

One of the most unpleasant features in country practice, originates in the great importunity among patients and their friends for delivering with celerity, requiring almost constant efforts, or seeming efforts for this end, otherwise the accoucheur may lose the confidence of all present, perhaps encounter their displeasure. In towns, thanks to the superior intelligence of the ladies, this is seldom the case. The doctor is not perpetually required in the bed-room, unless in certain emergencies. Where nothing is required he does nothing. This importunity leads to the untimely administration of ergot, which causes the death of many children. Many midwives, as ignorant of anatomy as the simple stargazer is of astronomy, desirous of expediting the labor, seize any salient point of the child, or of the organs of generation of the mother—they pull! On the 19th of January, 1832, I was called to see Mrs. M., who had been delivered three days previously by a midwife, who had pulled the external organs so as to cause mortification, from which she recovered with difficulty. Much of the vagina sloughed. Another midwife, in a breech case, pulled by the genitals of a male child, until they were torn off, causing its death in a few days after birth. On the 27th of November, 1832, I was called to see Mrs. R., 15 miles distant in the country, whom I had attended with success in a former labor. Mr. R., like some other farmers, kept a set of tools for making shoes in rainy weather. No sooner had he started for a doctor, than the midwife, in whose care he had left his lady, went to the shoemaker's bench and selected a large pair of pincers, with which she seized the skin of the child's head, which had presented in the usual manner; she tore open the vertex, and exposed the brain. When I arrived, after some hesitation, she brought the child from one corner of the room, where it had been covered up, but did not offer any explanation. The child lingered two days in great misery. I doubt whether this woman suffered any loss of practice by this murder. Indeed, the frequent vivisection of children, during childbirth, under pretences of various kinds, is very apt to enhance the reputation of the male practitioner. I could name ladies whose children have been dissected under the pretence that the pelvic bones are deformed, or too narrow, and who since have had large living children, and some of whom I have delivered with the greatest facility myself. For the honor of our profession, it is hoped that such cases are not often met with, though MM. Bayle and Gibert declare, that in France, especially in large cities, the most popular accoucheurs are those possessing the least merit and probity. (*Dict. de Méd., Art. Accoucheur.*)

In obstetrics, ignorance causes more mischief than dishonesty. A very amiable young woman, an only child, during her first labor, had a convulsion, while an old accoucheur of much reputation was attempting to deliver her. In order to prevent her from biting her tongue, her father held her teeth asunder, and, during her struggles, dislocated her jaw. After being attended by two aged accoucheurs and physicians, who gave her sundry medicines without dreaming of a luxation, I was called 37 days after the accident, and reduced her jaw at once. The displaced bones had formed bad ulcers within the cheeks; purges and slops (for of course she could not chew anything during 37 days) had reduced her strength and blooming appearance.

A midwife, very old and celebrated in her vicinity—more than a quarter of a century in practice—seven miles from town (Clarksburg, Virginia), requested my services for "a falling out of the womb," as she

called it, in her own person, of thirty years' standing, which, as she related, often became dry, tender, swelled, and so painful as sometimes to cause fainting, and had recently kept her wholly in bed. I found a pudendal hernia, which had descended within the pelvis, opposite the acetabulum, distending the right labium, pushing the vagina to the opposite side, displacing the womb in that direction. The womb was high up, and in all respects natural—a portion of the vagina had descended, covering the intestine. A midwife, ignorant of the position, size, and properties of the womb! her own womb!

Another midwife of much practice (peace to her *manes!* I owe her no ill-will—with her dying breath, she bequeathed to me the obstetrical jurisdiction over her children and grand-children), made it a rule to keep the patient awake the whole of the first night after an accouchement. She placed watchers at the bed-side to prevent sleep, in order to insure good luck to the mother and child!—a practice as cruel as dangerous, after the tumultuous actions, moral, mental, and physical, incidental to labor—actions followed by exhaustion, for which sleep is the best remedy —actions which lay the foundation of febrile movements, when the rest is disturbed. In such cases Sancho Panza's benediction "on the inventor of sleep" is well merited, as all ought to know. Dr. Rigby, in his obstetrical lectures, says, that in Germany there is an old saying, that a *primipara* [she that is delivered of her first child] ought not to be allowed to sleep for the first twelve hours after her labor. These Germans have some odd notions in New Orleans. In several instances at my first visit after delivery, I have found the children bandaged like mummies from the feet up, including the arms, which are placed against the sides. The whole chest is so tight, that the child sucks with difficulty in some cases. The body is almost rigid from the great amount and tightness of the bandages. I have never been able to induce the parents to remove them, until after a certain number of days. The theory is a very simple one—the child was crooked before birth, and requires straightening while its bones are soft. It has so happened that these children have done very well; they proved remarkably straight, active, and healthful, in the few cases which I have observed. Perhaps this was accidental.

Not long since, a German midwife, who had delivered a watchmaker's lady ten days before of a child, letting the placenta remain all that period, requested my aid—to bear the responsibility, I ought to say, of the woman's death. She had flooded from day to day; the arteries had ceased to beat in the extremities; she was nearly speechless—could scarcely swallow a little cordial; all the tissues, even the tongue and gums, were cold and blanched. A large placenta, nearly putrid, bathed in fetid blood, lay chiefly in the vagina—a portion extended within the *os tincæ*. It was instantly and easily removed. The woman had bled to death, from a want of *skill* in the midwife.

Those accoucheurs greatly err, in regard to the delivery of the placenta, who say,—leave all to nature. This midwife had left all to nature, simply because she did not know how to deliver the placenta, the cord of which had been broken. Retained *placentæ*, when they fail to cause hemorrhages, sometimes bring on a fever like typhus. Retention, I am inclined to think, is occasioned by hour-glass contractions of the uterus oftener than is generally supposed. It is very surprising that Dr. Dewees never met, in his own practice, with a case of hour-glass contraction. I have met with a number. In two cases, the *placentæ* were retained so long

that the ladies, as it were, forced me to deliver, after I tried ergot, &c. In the first case I was completely puzzled, not thinking at the moment of such a condition of the uterus—I explored its inner surface and found nothing—but on pulling the cord, I found it led through a firm strictured aperture which, I overcame, according to the rules laid down in such cases: in the next case, I found an ossific union between the placenta and womb—a firm, cancillated network, crushing like the shelled bird's egg,—the whole being separated slowly, was brought away as usual in the hand. Never have I witnessed any pain, or ill effects, from introducing the hand and wrist into the uterus upon such occasions. Retained *placentæ* give rise to putrefactive odor of the most offensive kind: the sooner they can be safely got away the better for all parties.

Probably no town in the United States of equal population presents so much bad midwifery as New Orleans. Here, unlike other places, the evil of mal-practice falls not on the poor alone, but also on the rich, who often employ negresses that happen to be lucky. The late Judge Waggaman, formerly of the United States Senate, informed me, that some years since an old, drunken negress, who was a midwife on his plantation, being called to a young black woman in her first labor, took a sharp case-knife, and performed the Cæsarean section, taking out a living child! The mother recovered soon, and had no inconvenience of a permanent kind, excepting a slight incontinence of urine. If this lucky negress had performed this operation for a rational end, obstetrical surgeons might have trembled for their laurels, since, according to Merryman and Blundell, it has been performed only twenty-six times in the British Isles, and has proved fatal to the mothers with but two exceptions.

Nearly all the white midwives of New Orleans are from foreign countries, and, with a very few exceptions, uneducated in their profession; and, as the law is becoming a dead letter, so far as medical practise is concerned, the number is augmenting rapidly. The law has done everything necessary to correct the evils of quackery: it requires, in all branches of medicine, and in both sexes, education, examination, and license. The Faculty, or the Medical Board, or both, are to be blamed. It is hoped that they may yet be galvanized into life, before all is lost.

"Midwives in France," says Dr. Stewart, "after two years' study at the School of Delivery, and submitting to two satisfactory examinations, receive a diploma to practise, always, however, under certain restrictions, one of which is, that in no case, and under no circumstances whatever, shall they resort to delivery with instruments without the attendance of a physician. They amount, in all France, to the number of 450, and practise almost exclusively among the lower classes of the community." (Hospit. Paris, 1843.) This number, divided into the whole population, will give an average of one midwife to every 75,000 inhabitants; while New Orleans has, probably, one for every thousand,—nineteen in twenty of whom, it is supposed, could not give an account of the bones of the pelvis, or its diameters; of the womb, or its annexiæ; to say nothing of the general mechanism of parturition. In one respect the negresses are more safe than a vast majority of the German and Irish midwives,—they will condescend to consult with doctors when difficulties arise, &c.

A few years ago, I was called to the mother of a considerable family, in labor with a monster more extraordinary in size and shape than, perhaps, any described by the late Geoffrey St. Hilaire—a monster in which

it would be difficult to trace that unity of organization which this naturalist has shown to prevail even in the deviations of structure, designated as *lusus naturæ*—being three-legged, four-footed, doubled-spined, single-ribbed; in the trunk and viscera, single; in heads, necks, and arms, double; massive, unyielding, and probably weighing twenty-five to thirty-pounds. The woman bathed in cold sweat; breathing quick; hiccupping; pulse and vital forces failing. A demented, or, at least, a stupid midwife was pulling by one leg, which she had found. Although there was now no hope from the Cæsarean section, or from any source whatever, the monster was carefully dissected as far as I could reach—along its posterior spine, corresponding to the maternal spine, to the shoulders of the monster; its anterior spine, corresponding to the maternal symphysis pubis, was removed about half-way up; one arm was obtained with difficulty, but the mass, which lay beyond the reach of instruments, was immovable, and the woman was dying, and soon expired. The Cæsarean section was performed. The four arms, upper part of the trunk, two necks with large heads—the foreheads directly opposite each other, formed a mass like an inverted cone, the apex of which was formed by the presenting parts, or legs,—a mass much of which was quite above the superior strait of the pelvis.

Although my obstetrical odds and ends are not exhausted, yet the reader's patience probably is; I will, therefore, ask him to take a "ride" in the country called Western Virginia.

I was called at dark to visit a clergyman's wife, thirty-five miles distant. Our road wound through deep narrow valleys shut in among precipitous hills a thousand feet high, covered from their bases to their summits with trees, loftier, larger, more numerous, and more dense, than I have ever seen within or without the tropics. Sometimes the arm of one tree impinges, or perhaps the whole trunk leans against another, causing, when the wind is up, a very peculiar sound, or many sounds;—some are low and mournful; others acute, shrill, and like the prolonged screams of a person in pain. Indeed, many honest people regard these sounds as coming from that sort of population, which Milton says, "walk the earth unseen both when we sleep and when we wake." The night is starless and as dark as Erebus. The foliage is dense. The firefly, and decaying phosphorescent trunks of fallen trees, shed an uncertain light. Creeks and rivers must be forded. The guide and myself, under all these disadvantages, soon achieved twenty-five miles by the aid of a road, and by the sagacity of our trusty horses. But the worst was to come. The guide, desirous of shortening the distance, left the road which was circuitous—entered a pathless forest, choked up with underwood and bushes—ascended a small water-course to its head—scaled a lofty dividing ridge or mountain—crossed its sharp summit—descended the opposite declivity, amid rocks and precipices, and with all the skill of a hunter, came down upon the house, at the base of the ridge, where the patient lived. The lady, robust and muscular, aged thirty-seven, had been in labor for the first time, no less than two days, and was given up by all as hopeless; the midwife, as usual in such cases, declaring "something was wrong." Some febrile symptoms were present, but the case presented nothing remarkable, but thickness, rigidity, and firmness of the *os uteri*, which, on taking two pounds of blood from the arm, yielded. In less than three hours a healthy child was born without any apparent increase in force of the uterine pains.

In not a few cases since, especially when marriage had been deferred beyond the 30th year, I have had occasion to adopt this practice, even in New Orleans and its vicinity, where labor is certainly easier than in Virginia.

In 1838, I kept an account of twenty-one consecutive labors. Fourteen were first labors, which, as all know, are generally the most tardy. Three were delivered of the children, not the placentæ, before I could reach the bed-side. Two children were born in five minutes; one in ten minutes; one in fifteen minutes; one in thirty minutes; three in one hour; two in two hours; six in three hours; one in four hours; one in six hours, after my arrival. About half or two-thirds of these I saw in the first stage, attended with short regular pains, the *os uteri* directed backward, with moderate dilatation. Two were in the second stage;—strong expulsive intermitting pain; opening of the *os tincæ;* protrusion of the bag of waters; flushed face; distension of the vessels of the head and neck; mental perturbation, &c.; one was a breech case, and occupied only four hours; ten were Irish; three English; eight Americans, and nearly all acclimated, or more than a year in this city. Now, if we except the delivery of the *placentæ*, and omit the irregular premonitory pains, unattended with expansion of the uterine orifice, the average time of active labor will probably not exceed three hours. Without pretending to possess sufficient *data* to place this conjecture beyond question, I am very certain that parturition occupies less time in New Orleans than in Virginia. In the latter, the women are robust, work hard, and have hard labors. The rich who are temperate and judicious, have the advantage, not only in longevity, but in easy child-birth; other things being equal.

Mrs. W., for nearly two years a captive (the only white adult), among the Camanche Indians of Texas, informed me a few months since, that parturition is by no means easy among the squaws of that nation. The dreamy speculations of philanthropists concerning the blessings of poverty, have been dissipated by statistical writers in all countries, who now agree that health, long life, and the increase of population, bear a direct relation to the physical comforts of mankind. No unprejudiced physician can practise long without being convinced that both himself and patients might avoid an immense amount of physical evil (among the rest, often sickness), by having riches, or at least a competency. The opulent city of New York contains more population than all the Indian nations of North America—and why? The Indians lack physical comforts.

Be the cause what it may, labor appears to be less protracted in New Orleans than in northern climates. The European accoucheurs assign to the first stage of labor alone, from twelve to fourteen hours; some condemn such delay, and recommend mechanical dilatation at the end of ten or twelve hours. The Princess Charlotte, heiress presumptive to the British throne, was in labor from Monday, 7 P.M., to Wednesday evening, and died two hours after the delivery was finished, owing, as Dr. Hamilton says, to Sir Richard Crofts allowing the first stage of labor to continue too long. The accoucheur, to make the matter worse, committed suicide. Perhaps a blood-letting would have saved all the parties.

MM. Bayle and Gibert (*Dict. de Méd.*) estimate the mean duration of labor in Paris, among those who have had one or more children, at from six to twelve hours;—first labors being twice as long.

For my part, if blood-letting be not contra-indicated, I should prefer it to artificial dilatation; but, in our genial climate, where the tone of the muscular system abates much of its rigidity compared with colder skies, neither method will be often necessary.

New Orleans, Oct. 1, 1845.

ART. VIII.—*Indigenous Medical Botany.* By STEPHEN W. WILLIAMS, M.D.

IN the early part of my practice, I devoted a considerable portion of my leisure hours to the study and cultivation of botany. In connection with Mr. Edward Hitchcock, now President of Amherst College, and Dr. Dennis Cooley, now of Michigan, I examined several hundred species of plants growing in our fertile valley and on the adjacent mountains. No finer field for botanical research can be found in our country than the rich alluvion of our extensive meadows, which are watered by Deerfield river, just before it empties itself into the Connecticut. This river rises in the Green Mountains of Vermont, and in its meanderings it runs a distance of more than eighty miles, and in its floods it bears the seeds of many of the plants of these mountains, which are almost alpine, and deposits them in the fertile soil of our meadows. Here they germinate, and in addition to those which spontaneously grow here, they augment the number of the species to a greater extent than is to be found in almost any other locality of the river.

My object in attending to the study of our indigenous plants at that time, was principally for the purpose of investigating the medicinal properties of such of them as might be useful in the cure of disease, and I have been overpaid by finding so many useful plants here, which have been used either scientifically or empirically. More than three hundred species have been noticed here, the properties of which are medicinal. I have either compiled or made original remarks in my note and common-place books, upon each of these plants, and have made them the bases of many of my observations upon Medical Botany in my lectures in the Medical Colleges of Dartmouth, N.H., and Willoughby, Lake Erie, Ohio. I have, also, drawings and paintings of most of them, principally executed by my wife and daughters.

I have always been much pleased with a series of papers on the indigenous botany of Great Britain, published in the London Medical and Physical Journal, about the year 1804, entitled a "Catalogue of such British plants as have been found in any shape serviceable to man, whether in a medicinal, economical, culinary, or agricultural point of view, together with an account of the uses which they have been made to answer, and an accurate botanical description of each plant." I have conducted my observations upon a somewhat similar plan in relation to the medicinal plants growing in this section of the country, and I hope they may be of some service, both to the medical student and to the practitioner. Of course, many of the observations are compilations,—many of them, however, are original. I have endeavored to procure information from every source which presented itself, either from the learned or the unlearned, from the aboriginal Indian, and from the illiterate old woman. Some

useful information may be obtained even from such sources. Much of the information, therefore, is cabalistical, superstitious and apocryphal. The judicious reader can easily separate the wheat from the chaff.

Dr. Rush, in one of his valedictory lectures to his students, recommending to them the study of botany, observes:—

"Let me recommend to your particular attention the indigenous medicines of our country. Cultivate or prepare as many of them as possible, and endeavor to enlarge the materia medica by exploring the untrodden fields and forests of the United States. The ipecacuanha, the Seneka and Virginia snake roots, the Carolina pink-root, the spice wood, the sassafras, the butternut, the thoroughwort, the poke and the stramonium, are but a small part of the medicinal productions of America. I have no doubt but there are many hundred other plants which now exhale invaluable medicinal virtues in the desert air. Who knows but that it may be reserved for America to furnish the world from her productions, with cures for some of those diseases which now elude the power of medicine? Who knows but that at the foot of the Alleghany Mountain there blooms a flower that is an infallible cure for the epilepsy? Perhaps on the Monongahela or the Potomac, there may grow a root that shall supply, by its tonic power, the invigorating effect of the savage or military life in the cure of consumptions?"

Inflamed somewhat by observations like these, I am induced to send for the "New York Medical and Surgical Journal," a few remarks upon one or more of our medicinal plants, and if they meet the approbation of the Editor and readers, I may, perhaps, furnish it with more.

Lycopus Virginicus.—Common name. This, like other plants, is *dignified* by various appellations. Here it is vulgarly called water agrimony. In other places it is designated by the names of horehound, water-horehound, middle-confound, middle-comfrey, brown-bugle, water-bugle, bugle-wort, stickle-wort, herb carpenter, gypsey-wort, Paul's botany. *French*—Lycope de Virginie. So much for deviations from technical terms.

Five species of Lycopus are enumerated in the New Edinburgh Encyclopedia; six by Rafinesque, and five varieties. It is found in the natural order, Lamiaciæ or Labiatæ of Lindley, in the class Diandria Monogynia of Linnæus.

Generic Description.—Calyx campanulate, equal 4-5 toothed, with the throat naked inside. Corolla scarcely larger than the calyx, campanulate, equal 4 cleft stamens, two rather projecting, distant. Anthers 2 celled, with nearly parallel distinct cells. *Lindley.*

Specific Description.—Leaves broad, lanceolate, serrate, narrowed at base; calyx shorter than the seed, but not prickly; stem obtusely quadrangular; leaves opposite, smooth, variously toothed; flowers in small whorls; the calyx short and unarmed. Between this and the Lycopus Europæus there are all intermediate varieties. Wet grounds, July, Aug. Perennial. *Bigelow.*

Use.—A very important property of this species of Lycopus has been almost entirely overlooked by writers on the subject, and that is its astringency. It is, in fact, one of our very best vegetable astringents. It is to this principle of its astringency that I wish particularly to invite the attention of my readers. I have used it with marked success in my practice for more than thirty years, in all kinds of hemorrhages, and I thinkin this respect it is quite equal to the geranium maculatum, catechu or kino. So much am I accustomed to the use of it in cases of uterine

hemorrhage, hæmatemesis, hæmoptysis, hæmaturia, menorrhagia, epistaxis, &c., that very many of my neighbors and friends are as much in the habit of gathering it at the time of its maturity as they are of gathering sage, thoroughwort, and many others supposed to be indispensable culinary or medicinal herbs, and they sometimes resort to the use of it without consulting a physician. I have found it more particularly serviceable in hæmatemesis than in the other kinds of hemorrhages. Here it operates more directly upon the mouths of the bleeding vessels, than in hæmoptysis and uterine hemorrhages. I think I have been instrumental in saving life by the use of this plant in this complaint. In the other hemorrhages, although it does not operate so directly upon the bleeding vessels, I think, in addition to its astringency, it produces a sedative effect, and I believe it has, like digitalis, the power of diminishing the frequency of the pulse, and it is on this account that I continue the use of it a great length of time.

When young, I was very subject to bleeding at the nose, and was sometimes reduced by it almost to a skeleton, and the surface of my body appeared to be almost bloodless. By a persevering use of a decoction of this plant, I have reason to believe I was much relieved, if not cured, of this troublesome and sometimes dangerous complaint. I have given it successfully in many other cases of a similar character. In these and all other cases of hemorrhages, the use of it must be continued for a long time, and with great perseverance. As it is apt to produce constipation of the bowels, I always direct cathartics, laxatives, and laxative enemas after the use of it. Owing to its sedative properties, it has the power of quieting irritation in cases of harassing coughs; hence various preparations of bugle, as it is often called, have been long in repute for the cure of consumption. Drs. Pendleton and Rogers, of New York, who, according to Rafinesque, were some of the first inquirers into the properties of this plant, have published several cases of hæmoptysis cured by it, and also several cases of incipient phthisis, and he says, that this has been confirmed by Drs. J. M. Smith, Ives, Lawrence, and himself; and he further says, that the plant is now much used in New York and New Jersey. *It* has been much and beneficially used in the New York Hospital. Rafinesque has made many experiments with the plant, and he says, that the results are—

"That, although it does not cure the consumption nor heal the lungs, it is very useful in hæmoptysis, in plethoric habits, and internal inflammation; I consider it a very good substitute to all narcotics, prussic acid, and even to bleeding, since it produces the same state of the pulse and arterial system, without inducing any debility, or acting on the heart or brain in any injurious manner."

He believes it may be used with advantage in many diseases in which it is required to quell inordinate action of the blood vessels. In some parts of New Jersey it is used in cases of dysentery and diarrhœa, and it is a diseases adjuvant in fevers, and particularly proper in the inflammatory useful of drunkards, and in diseases of the heart.

My late intimate and highly esteemed friend, Dr. Ansel W. Ives, of New York, thought the plant a very mild narcotic, and several eminent physicians in New York, on account of this property of the plant, have used it in the early stages of consumption and bleeding at the lungs.

The best form of administering it is, to infuse an ounce of the plant in

a pint of boiling water, sweeten, if the patient pleases, to the taste, and let him drink as much as he pleases of it during the day.

A friend of mine, a respectable practitioner, and a Fellow of the Massachusetts Medical Society, wrote me a long account of this plant, as long ago as the year 1830. After accurately describing this and some other species of Lycopus in a page of foolscap, he closes his letter upon it as follows :—

"The use of the Lycopus Virginicus is, and has been, as you well know, highly recommended in cases of internal hemorrhages, more particularly hæmoptysis; but it has been found to exert an equally efficacious effect in all cases of uterine hemorrhage and in hæmatemesis. As all these diseases are of a character and importance which will justify, if not demand, the utmost efforts of physicians, in preventing the disastrous effects which they have too often produced, I have given to them an anxious and untiring attention, and from the few observations of others published on the subject of remedies in the prevention, palliation or cure of them, I have zealously and successfully adopted the Lycopus as pre-eminent in its healing and curative effects in these ever-to-be-dreaded diseases. From my experience in the use of it, and the uniform good results of it, I think I can with safety recommend its use, as being a remedy that will not fail the judicious practitioner in a great majority of cases in which it is fairly indicated. As such, and with such views of the subject, I have taken the liberty to communicate to you, Sir, my opinion. If you should feel the subject to be as important as I do, be pleased to write me on the subject, with the result of your practice in the use of the remedy; also, that of others in the profession, with whom you may have intercourse. I will only observe farther, at this time, that I have found the decoction given cold, as the best and only manner in which it is to be employed, and that thus used in my practice it has never failed of producing very happy results in more than forty cases."

To show the opinion which some of the ancient physicians entertained of the efficacy of this plant, see what old Culpepper said of it in the year 1653, nearly two hundred years ago. We ought by no means to lose sight of the testimony of the early writers in our profession, especially on medicinal substances, the virtues of which have been handed down unimpaired to us. Surely that must be a valuable medicine on which so much has been said.

"*Bugle.*—This herb belongs to Dame Venus: if the virtues of it make you fall in love with it (as they will if you be wise) keep a syrup of it to take inwardly, and an ointment and plaster of it to use outwardly, always by you.

"The decoction of the leaves and flowers made in wine and taken, dissolves the congealed blood in those that are bruised inwardly by a fall or otherwise, is very effectual for any inward wounds, thrusts or stabs in the body or bowels, and it is an especial help in all wound-drinks, and for those that are liver-grown (as they call it). It is wonderful in curing all manner of ulcers and sores, whether new and fresh or old and inveterate; yea, gangrenes and fistulas; also, if the leaves bruised and applied, or their juice, be used to wash and bathe the place, and the same made into a lotion, and some honey and alum cures all sores in the mouth and gums, be they never so foul, or of long continuance; and works no less powerfully and effectually for such ulcers and sores as happen in the secret parts of men and women. Being also taken inwardly or outwardly applied, it helps those that have broken any bones, or have any members out of joint. An ointment made with the leaves of the Bugle, Scabius and Sanicle, bruised and boiled in hog's grease until the herbs be dry, and then strained forth into a pot for such occasions as shall require; it is so singular good for all sort of hurts in the body, that none that know its usefulness will be without it.

"The truth is, I have known this herb cure some diseases of Saturn, of which

I thought good to quote one. Many times such as give themselves much to drinking are troubled with strange fancies, strange sights in the night-time, and some with voices, as also with the disease ephialtes, or the mare. I take the reason of this to be (according to Femelius) a melancholy vapor made thin by excessive drinking of strong liquor, and so flies up and disturbs the fancy and breeds imaginations like itself, viz., fearful and troublesome. Those I have known cured by taking only two spoonsful of this herb after supper two hours, when you go to bed. But whether this does it by sympathy or antipathy, is some doubt in astrology. I know there is a great antipathy between Saturn and Venus in matters of procreation; yea, such a one, that the barrenness of Saturn can be removed by none but Venus; nor the lust of Venus be repelled by none but Saturn; but I am not of opinion this is done this way, and my reason is because these vapors, though in quality melancholy, yet by their flying upward seem to be something ærial; therefore I rather think it is done by sympathy; Saturn being exalted in Libra, in the house of Venus."

I hope my readers will not think, by the above extract, that I am a believer in astrological botany. I copy it to show the science of the times, and also the estimation in which the plant was held at that period. See also, Salmon's Dispensatory, eighth edition, 1716.

Deerfield, Mass., Jan. 21st, 1845.

ART. IX.—*A Few Cases of Disease.* By G. C. MONELL, Newburgh, Orange Co., N. Y.

DISSECTING ANEURISM.—The infrequency of this disease is perhaps sufficient reason for publishing the following case.

The patient was a strong, fine looking negro, a cook on board a Liverpool packet, aged about fifty, and except an occasional uneasiness at the epigastrium, evidently caused by indigestion, had enjoyed uniform good health.

Aug. 12th, 1844. He was attacked with severe colic, accompanied with hot skin, soft, full pulse, and previous constipation. Forty grs. of calomel, and i ℥. of oil, accompanied with copious injections, cooled the skin and relieved the pain, but did not move the bowels; the loss of twelve or fourteen ounces of blood, about six hours after the calomel and oil were taken, produced slight faintness, and was soon followed by free evacuation of the bowels, and entire subsidence of the pain. He continued to improve, and by the 17th, was nearly recovered, complaining of nothing except weakness. On the 17th, after lying down for an hour, after dinner, he attempted to rise, but immediately fell back, and died instantaneously without a word. On examination, twenty-four hours after death, all the organs of the chest and abdomen were found healthy, excepting the heart. The pericardium contained about a pint of fluid blood, and the same of coagulated. The cavity of the left ventricle was dilated, being increased about one-fourth, and the walls proportionally thickened. The blood had escaped into the pericardium through an opening in the aorta, just above the semilunar valves. On opening the aorta, the serous coat was of a dusky red appearance, and somewhat thickened, but uniform and smooth. Half an inch above the orifice of the aorta was a Z shaped opening, about one-fourth of an inch long, through the lining of

the vessel, and the inner lamina of the muscular coat; a passage for the blood was now formed between the two lamina, embracing from half to three-fourths of the entire circumference of the artery, and extending as far as we could examine (we were obliged to remove the heart by stealth, and examine at home, lest, by attracting the attention of two or three friends present, we should lose the specimen), which was about six inches. The origin of the innominata, and the carotid and subclavian, were plainly included in the disease, though to what extent we could not determine; and if any inference could be drawn from the part of the aorta preserved, and still in my possession, the dissection must have continued nearly, if not quite, to the iliac arteries. The rupture into the pericardium was circular and ragged, and situated a very little below the internal opening, which was smooth and even. The laminated structure of the middle coat was clearly apparent, and left no doubt that the fictitious canal was formed by a separation of the inner and outer layers of this tunic. The specimen is a fine one, and it is greatly to be regretted that we were unable to trace it out as far as it extended.

Polypus of the Heart.—This affection, though more frequent than the preceding, rarely causes immediate death without previous warning. In the present case, however, there had never been a suspicion of cardiac disease; respiration and circulation were performed without any apparent obstruction. The subject of the disease was a physician, residing in this village, of long experience, and highly esteemed; he was rather over the medium size, and somewhat corpulent; he was perfectly temperate in his habits, and though not of an active temperament, faithfully performed the duties of a large and laborious practice.

April 27th, 1842. He was seized in the morning, after previous exposure to wet and cold, with severe pain throughout the body, but more especially in the lower limbs; much prostrated, skin cool and pale, pulse weak, but moderately full. Stimulants were applied to the body and limbs, and stimulating injections thrown into the rectum. Reaction soon followed, when about twelve ounces of blood were drawn from the arm, which gave almost entire relief. A few hours after, however, at his own suggestion, he took an emetic, which operated as desired, and he expressed himself nearly well. In the evening he complained of pains, extending from the spine to the body and limbs; these were removed by cupping, and he retired to rest, expecting to attend to his professional duties on the day following. Two or three times in the course of the night he awoke and asked for drink, but immediately slept again, until about 4 o'clock in the morning, when he awoke and complained of being tired, and in a few minutes suddenly gave a spring to one side, and was dead.

Examination sixteen hours after death.—Head not examined. *Lungs* slightly congested, but pervious through their whole extent. *Heart* natural in size and external appearance; it contained no blood.

In the left ventricle, and extending into the aorta, was a fibrous concretion, comparatively recent, but evidently formed previous to death; yet not of sufficient size to seriously obstruct the circulation. In the right ventricle was a similar but much older concretion, attached to the walls of the ventricle and the columnæ carneæ; extending upward it diminished in circumference to about the size of a pipe stem, when it passed the opening into the auricle, and again expanded until it nearly

filled the cavity of the auricle. It *had* also been attached by a broad base to the superior surface of the auricle, but this latter attachment was now separated, and the polypus forced down into the auriculo-ventricular orifice completely plugged it up, thus necessarily causing instantaneous death.

Was the attack the previous day caused by a *partial* separation of the polypus from the auricle? or, was the first attack a case of common congestion, and thus perhaps causing the entire separation which produced the sudden death?

ANEURISM OF THE AORTA.—I did not see this case until an hour before death; the previous symptoms, however, were obtained without difficulty, and probably truly.

The patient was a laborer in a brick-yard, between 40 and 50 years of age, of middle size, lymphatic temperament, and, except a slight difficulty of breathing, enjoyed perfect health; the dyspnœa, however, was never sufficient to impede his daily labor until about the middle of August, 1841, when he suddenly fell senseless, while engaged at his work. It was supposed at the time that he had fainted, as he soon revived, and again resumed his usual labor. After this his dyspnœa increased somewhat, yet he followed his daily work for about two weeks, when, while walking up hill with a load on his shoulders, he was suddenly seized as at first; he revived in about an hour, but still complained of distress in the chest; he was now bled and purged, with great relief, and resumed his labor for about a week, when he was again seized as before, while engaged in the same work. After an hour or two the faintness passed off, but great dyspnœa remained, amounting almost to suffocation, which was but slightly relieved by the treatment, which consisted of bleeding, purging, and a blister to the *throat*, where the patient himself complained of great obstruction.

He had been in this state three days when I saw him; I found him sitting up in bed, leaning forward, in great agony, struggling for breath; his countenance, expressive of intense distress, exceedingly pale. He died in about an hour, evidently suffocated.

On examination after death, the first object that presented on raising the sternum was a large tumor, closely adhering to that bone, throughout its upper half, except about an inch at the top, which was eroded to the depth of two or three lines. The tumor was found to be an aneurism, which, together with the heart, was carefully removed. The chest contained about three pounds of coagulated blood, which had escaped from rupture of the aneurism. The tumor was about five inches in diameter, and would contain probably eight or ten ounces; the walls were from an inch to an inch and a half in thickness, formed within, as usual, by layers of coagula. The rupture had taken place at the upper part of the aneurism where the walls for two or three inches round were brittle, in fact almost rotten; the lower parts of the walls were firmer and lined within by the serous coat. The opening from the aorta was at the top of the ascending arch, and one inch in diameter. The heart itself was healthy in all its parts; the lungs were also healthy.

MISCARRIAGE.—The following case presented several new features to me, and may not be without interest to some others.

Mrs. S., pregnant with her first child, probably two months; during

which she had suffered much from morning sickness, languor, &c. At this period I was sent for on account of pain and slight hemorrhage; rest and opiates removed these symptoms for two days, when they again returned, and in a short time she passed, with considerable pain, a substance which I did not see, but which she informed me was the size of a black walnut, resembling clotted blood; it was supposed to be an abortion. A slight discharge, but no pain, continued for a fortnight, during which time she attended to her household affairs as usual. The breasts were somewhat swollen for a few days, and contained a little milk. *The morning sickness and all the sympathetic symptoms entirely disappeared*, and there was now not the slightest doubt, either in her mind or my own, of the abortion; even the areola around the nipple, which was distinctly discolored, resumed its natural hue. In two weeks, as before mentioned, the discharge ceased, and she expressed herself as well as ever. Two weeks after this she complained of a stuffed feeling in the pelvis, and more especially the right iliac region. A cathartic was administered, the operation of which removed the feeling in part; it, however, returned and increased during the next fortnight. There was now an evident fullness over the pubis, and still more a little to the right; an examination per vaginam proved this to be an enlargement of the womb. During the examination, a clot of blood, or rather a deposit of fibrin from the blood, for it was almost like flesh, escaped from the os uteri, and was immediately followed by a rapid flow of florid blood, amounting by measure to five pints, while nearly a pint must have escaped the vessel. The patient manifested no alarm, but expressed herself greatly relieved, and after the discharge had ceased, which it did entirely the next day, said that the difficulty was completely removed. She resumed her usual duties in a day or two, complaining only of slight weakness; when the next menstrual period approached she again complained as before, though not to the same extent. The discharge (menses, as she supposes) took place at the regular time, but after continuing two days passed off without affording much relief. Three days after this she awoke in the night, cold and chilly; in the morning had a severe chill, intense pain in body and limbs; these symptoms were removed by stimulants, when regular uterine pains of considerable severity followed. I then examined, though I must confess, without any very definite purpose,—and to my astonishment, found the os uteri dilated, and a fœtal head presenting, and in three hours she was delivered of a full four months' fœtus; about a quarter of the placenta had plainly been separated from the womb for a considerable time. She soon recovered and did well. The dates are purposely omitted. Here then we have a pregnancy accompanied with the usual sympathetic symptoms of considerable severity; we have pain and hemorrhage, followed by a supposed abortion; the sympathetic symptoms all cease; something that passed for lochia, continued for two weeks, during which the patient has resumed her domestic duties and feels well; the dark-colored areola disappears; two or three weeks after, there appears a perceptible fulness over the pubis, ascertained to be the womb; this is accompanied by a feeling of fulness, a stuffed feeling; a large quantity of blood, retained by a coagula, escaped, and the patient appears well, and the fulness is gone. She goes on four weeks, and has, as she supposes, her usual discharge, and three days after gives birth to a child. It was singular that the first pain and hemorrhage was not followed by abortion, considering her active exercise; it was still more singular that she should

escape after the second and large discharge, she still exercising as usual: but that the sympathetic symptoms should all disappear, and especially the areola round the nipples, was to me entirely a new occurrence.

Obstruction of the Bowels.—The object of the following case is to show the effects, apparently and probably really produced by electro-magnetism. The patient, a widow lady of about fifty-five years of age, was taken, ten days previous to my seeing her, with bilious vomiting and intense pain in the bowels, accompanied by constipation. The pain ceased in three or four days, but the vomiting continued, and was now stercoraceous. She had been bled to faintness, had taken calomel until the gums were sore, had taken one drop of croton oil every hour, for several doses, besides various other cathartics, and repeated ordinary injections. I found her on the eleventh day, without fever, bowels somewhat tender, and vomiting fæcal matter every hour or two. The injections before used had been given with a common syringe and allowed to come away immediately. I used the rectum tube and force pump, but could not throw up more than a quart at once, which, however, was compelled to be retained for half an hour, when it was suffered to pass, and after a little repeated. This was continued for six times, until the injection, which at first returned mixed with fæcal matter, came away, after being kept up an hour, almost as clear as when given. The symptoms nearly the same; there was evident obstruction, and, probably, invagination of the small intestines. I now used Mr. Pike's electro-galvanic apparatus, applying a pole on either side of the abdomen; this was continued for twenty minutes, when there was evident commotion in the bowels, and in ten minutes more there was a regular evacuation, thin and small in quantity, but distinctly of a fæcal character and the first in eleven days. The vomiting ceased entirely; two hours after, the battery was again used, and in twenty minutes produced a free operation. A dose of oil operated in the usual time, and the patient rapidly recovered. There was no doubt in my mind but the favorable change was produced by the electro-magnetism, though more probably by the successive shocks producing muscular action, rather than by any electro or magnetic agency.*

Variola.—These cases are related as simple matter of fact, without wishing to use them either to deny or defend the opinion, that chicken pox and small pox may arise from the same contagion.

Oct. 11, 1844.—C. S——, after a day or two of previous indisposition, had a chill, followed by slight fever. Oct. 13th, an eruption appeared on the chest and then on the face; this presented all the characteristics of chicken pox, and was so pronounced. Oct. 18th, the vesicle had scabbed in the usual way. The patient was confined to the house but a day or two, and required no medicine. He had been away from home, but was not aware of being exposed to any eruptive disease.

Oct. 23d.—Mahala, sister to the above, had a chill, with pain in the loins, followed by considerable fever. Oct. 25th.—Eruption appeared on

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* I would remark that I always avoid the use of this machine during pregnancy. In one case, however, where I used it for chronic rheumatism, without being aware of the pregnancy, it apparently caused a miscarriage, which followed after about twelve or fifteen applications.

the face and afterwards on other parts. 28th.—Vesicles fully formed and very numerous; none of them depressed in the centre. Nov. 2d.—Mostly scabbed. She was confined to her bed about a week.

Oct. 27.—De Witt, æt. 3 years, had a chill, with severe pain in the loins, followed by intense fever. 31st.—Eruption appeared on the face, and after on the body. Nov. 2d.—Completely covered with vesicles well filled. Nov. 3d.—Those on the face distinctly depressed in the centre; and others not so distinct over the whole body. Nov. 4th.—The pustules on the face so confluent as to look almost like a single sore. Nov. 5th and 6th.—Secondary fever, with delirium. 7th.—Begins to decline. 8th—Still better and begins to scab; after this he recovered rapidly. On the face, as remarked, the disease was confluent, a single scab covering almost the entire cheek. On the body and limbs they were as numerous as possible, to be distinct. The first two had been vaccinated, the last had not. There were no others in the family except the wife of the first named patient; she had been vaccinated, and had a slight chill, but no fever and no distinct eruption. Chicken pox prevailed at this time in the village, but no small pox appeared until near a month after, when there was one case of severe small pox, supposed to be caught in New York, and some thirty or forty of varioloid, none of which were severe.

ART. X.—*An Account of the African Fever as it prevailed on board the U.S. Ship Preble, during her late Cruise, with an Abstract of forty-three Cases.* By S. WILSON KELLOGG, M.D., U.S.N., Surgeon of the Vessel, communicated in a letter to the Editor.

[CONTINUED.]

CASE XXI.—*Nov. 28th.* John Bannister, Boy, admitted with the usual symptoms. ℞. Hydrarg. prot. chlor. gr. x., ext. col. comp. gr. vj. M. ss.

29*th.* Better; no fever; nothing ordered.

30*th.* Had more febrile excitement this morning; complains very much of pain in the back; effervescing draughts.

Dec. 1*st.* Improving. Continue treatment. Sago.

2*d.* Not as well; has an exhausting diarrhœa; tongue clean, but very red; pulse very quick and feeble (112); some tenderness on pressure on the epigastrium. Apply cups, and after blister. ℞. Mist. cret. ℥ss qq. hora.

3*d.* Worse; diarrhœa better; blister has not drawn; tongue red and dry; pulse very rapid and feeble; eyes suffused; skin cold and clammy; is perfectly sensible; is very restless; moans much; complains of no pain. Brandy and water freely; thin arrow-root, and wine.

4*th.* Worse; inclined to stupor, but can be roused without much difficulty; pulse 140, scarcely perceptible; skin cold and covered with a profuse sweat; could not see his tongue; features sharpened. Continue brandy and water.

Died at 4 P.M. Body not examined.

CASE XXII.—*Dec.* 1*st.* John Brice, Seaman, admitted, with the usual symptoms. ℞. Calomel. gr. vij. colocynth. ext. gr. vj. M. s. s.

2*d.* No change; complains of some headache; has hot, dry skin

pulse quick, rapid and full; bowels freely opened by cathartic. Apply cups to temples; effervescing draughts.

3*d*. Better; less fever; very little pain in the head; skin moist; pulse less rapid. Continue effervescing draughts.

4*th*. Fever very slight. Continue as yesterday. Arrow-root.

5*th*. As yesterday. Continue treatment. Rice and milk.

6*th*. Rather more fever this morning; pulse 90, full and soft; tongue red, and covered with a yellow fur; bowels regular; skin hot, and moist. Effervescing draughts.

7*th*. Rather worse; high febrile excitement; great depression of spiits; skin hot, and dry; pulse 100, quick and feeble. ℞. Mass. hyd. gr. iij., pulv. ipecac. gr. ½, qq. 2da hora.

8*th*. As yesterday; bowels very loose. Apply cups to epigastrium. Continue blue mass. and ipecac.

9*th*. Rather better; bowels less relaxed; skin warm and dry; tongue moist, and covered with a yellowish fur; has slight headache; pulse 90, and feeble; faints whenever he attempts to get up. ℞. Mass. hyd. gr. iv., quininæ gr. ij., M. qq. 2da hora, s.

10*th*. No material change. Continue treatment; arrow-root.

11*th*. Pulse 94, feeble; skin cool, and moist; tongue moist and covered with a brownish fur; thirst slight; no pain; says he "feels comfortable;" bowels open; asks for something to eat; continue mass. hyd. without quinine; arrow-root.

12*th*. Improving; pulse less frequent, and fuller; skin warm, and moist; tongue cleaning; continue treatment, and arrow-root.

13*th*. Tongue nearly clean; pulse 78, full and feeble; no thirst; skin natural; bowels open; continue treatment; arrow-root, wine and water.

14*th*. Convalescent.

Case XXIII.—*Dec.* 1*st*. Samuel Reese, Boy, admitted with the usual symptoms. ℞. Calomel. gr viij., pulv. rhei gr. xv., M. s. s.

2*d*. As yesterday; is very restless; delirious, with considerable febrile excitement; bowels freely opened. ℞. Calomel. gr. ij., pulv. rhei gr. ij., pulv. ipecac. gr. ss., M. qq. 3ia hora, s.

3*d*. No material change; continue treatment.

4*th*. As yesterday; skin very hot and dry; pulse rapid and soft; tongue red at the tip and edges; thick yellow fur in centre; is very thirsty; bowels free; continue effervescing draughts.

5*th*. As yesterday; continue treatment; arrow-root.

6*th*. No material change; continue treatment.

7*th*. No change; continue treatment.

8*th*. Better; continue treatment; rice and milk.

9*th*. As yesterday; continue treatment and diet.

10*th*. Better; continue treatment; rice and molasses.

11*th*. Convalescent.

Case XXIV.—*Nov.* 30*th*. Smith Owens, Seaman, admitted with the usual symptoms. ℞. Calomel. grs. xij., ext. colocynthid. c. grs. vj. M. ss.

Dec. 1*st*. Pain in head very severe; high febrile symptoms. Apply emp. episp. to neck. Effervescing draughts.

2*d*. Slightly better. ℞. Calomel. gr. ij., pulv. ipecac. gr. j., m. qq. 2da hora. s.

3*d*. No change. Continue as yesterday. Arrow-root.

4*th*. Rather better. Continue treatment and diet.

5*th*. Better. Continue treatment. Rice and milk.

6*th*. Has rather a stupid look; skin hot and dry; pulse 100 and feeble; restless; no sleep; bowels open. Continue effervescing draughts. Weak porter and water.

7*th*. Skin less hot, and slightly moist; otherwise no material change. Continue treatment. Rice boiled.

8*th*. Skin cool and dry; delirious; pulse very rapid; has a tendency to slide to the foot of his cot; cannot get him to put out his tongue; bowels free. ℞. Calomel. gr. ij., quininæ gr. j., camphor. gr. v. M. qq. 2da hora; sinapisms to feet and legs; wine and water.

9*th*. Sinking rapidly; tongue dryish and covered with a brown fur; sordes on the teeth; pulse 120 and very feeble; skin cold and clammy; is inclined to stupor, but can be easily roused; passes his stools in bed. ℞. Camphor, quininæ aa. gr. v., qq. 2da hora. Wine and water.

Died in the evening. Body not examined.

Case XXV.—*Nov*. 30*th*. John Flanagan, Seaman, admitted with the usual symptoms. ℞. Calomel. gr. ij., ext. colocynth. c. gr. vj. M. ss.

Dec. 1*st*. Better. Effervescing draughts.

2*d*. Improving. Continue treatment.

3*d*. Improving. Continue treatment. Sago.

4*th*. Improving slowly. Continue treatment and diet.

5*th*. Improving. Continue treatment and diet.

6*th*. Better. Continue treatment and diet.

7*th*. Sank suddenly during the night; found him almost pulseless; skin cold and clammy; says he feels perfectly well; tongue covered with a dark, dirty yellowish fur; is inclined to be comatose, but is easily roused, and appears to have his senses perfectly. ℞. Ammon. carb., camphor. aa. gr. v., every hour; brandy and water; sinapisms to feet; blisters to the back of neck and inside of thighs.

8*th*. 9*th*. 10*th*. No change. Continue treatment.

11*th*. No material change; pulse more distinct, but very feeble; tongue covered with a dark brown fur; dark offensive sordes on the teeth; skin cold and clammy; voice almost extinct. Continue treatment; will probably die to-day.

12*th*. Died at 2 A.M.

Autopsy eight hours after death.—Brain.—Dura mater considerably injected. Pia mater and arachnoid deeply engorged. Substance of the brain natural as to firmness, but much injected. Choroid plexus engorged with blood. No effusion in the ventricles.

Thorax.—Lungs healthy. In the pericardium were found eight ounces of serum.

Abdomen.—Stomach contained about six ounces dark bilious-colored fluid. Peritoneal coat considerably injected. Mucous coat softened and presenting dark-colored patches, and numerous bloody points or dots. Liver much enlarged and slightly softened. Gall-bladder very much distended, and contained ten ounces of natural bile. Spleen natural in size, but softened. Duodenum injected, and its mucous coat softened. Caput coli presented a number of dark purple patches in a state of almost complete disorganization. Other organs normal. The blood was much lighter colored, and more tenuous than natural, and the same condition, in this respect, existed as in the case of Manuel Francisco.

Case XXVI.—*Nov.* 30*th.* Robert Cleves, old Seaman, admitted with the usual symptoms. ℞. Calomel. gr. xij., ext. colocynth. c. gr. vj. M., ss.

Dec. 1*st.* Better; effervescing draughts.

2*d.* Improving; continue as yesterday.

3*d.* Better; continue treatment; sago.

4*th.* Improving; continue treatment and diet.

5*th.* Skin warm, and slightly moist; great thirst; tongue red, and covered with a whitish slime; pulse frequent and feeble; no pain; bowels very loose; stools watery and acrid. ℞. Mist. cret. ℥ss. after each stool; arrow-root.

6*th.* Diarrhœa has stopped; skin warm and moist; tongue less red; restless; pulse 110, and very feeble; wine and water; effervescing draughts if skin becomes hot and dry.

7*th.* Much worse; pulse very rapid, and almost imperceptible; skin cold, and covered with a profuse sweat; stupid, and cannot be roused; breathing hurried and difficult; tried to give brandy and water, but could not get him to swallow it; apply mustard to feet and legs.

Died at 2 P.M.

Case XXVII.—*Dec.* 3*d.* Thomas Davis, Seaman, admitted; complained yesterday of pain in head and back; skin very hot and dry; pulse frequent, full and quick; bowels constipated. ℞. Calomel. gr. xv., followed by ol. ricini ℥i.

4*th.* No change; high fever; cathartic produced one scanty stool. ℞. Calomel. gr. iij., pulv. ipecac. gr. j., M. qq. 3ia hora, s.

5*th.* Was much tormented last night by a distressing singultus; applied a blister to epigastrium, which relieved it; slept quietly all the latter part of the night; has no pain at present; pulse 90, soft and small; skin warm and moist; tongue slightly furred; bowels open; effervescing draught.

6*th.* Improved since yesterday; is doing very well; tongue cleaning; continue as yesterday.

7*th.* Better; continue treatment.

8*th.* Improving; continue treatment; rice and milk.

10*th.* Convalescent.

Case XXVIII.—*Dec.* 3*d.* J. F. M., Esq., Lieut., admitted with the usual symptoms. ℞. Calomel. gr. xij., ext. colocynth. c. gr. vj. M. ss.

4*th.* Slight remission this morning; complains of giddiness; slight pain in head and back; skin warm and moist; tongue thickly coated with yellow fur; pulse full, soft, rather quick; about 88; bowels moved three times; stools dark and bilious; vomited freely yesterday yellow bitterish matter; applied mustard to epigastrium; effervescing draughts.

5*th.* As yesterday, continue effervescing draughts; sago.

6*th.* Better; no fever; pulse 80; skin moist and natural; tongue much loaded, but is beginning to clean. ℞. Sol. sulph. quin. gr. ij., qq. 2da hora; arrow-root.

7*th.* Convalescent.

Case XXIX.—*Dec.* 3*d.* Wm. A. Henry, æt. 22, Acting-Master, admitted with usual symptoms. ℞. Calomel., colocynth. ext. c. aa., gr. v.

4*th*. As yesterday; the irritability of the stomach increased; tongue less coated; apply mustard to epigastrium and feet; effervescing draughts.

5*th*. Better; has a remission of fever; continue treatment.

6*th*. Not as well; had a very hot fever last night, with great pain in the head; stomach very irritable; cupped him freely on epigastrium; sponged surface freely with alcohol and water; was very restless all night; this morning has a slight remission; continue effervescing draughts.

7*th*. Has considerable febrile excitement; no change; stomach less irritable; continue treatment.

8*th*. No better; tongue coated with a yellow fur; skin hot and dry; has a feeling of tightness about the head; nausea; no stool for two days; pulse 114, quick and feeble; tenderness on epigastrium; apply blister, pulv. seidlitz; effervescing draughts.

9*th*. Has not had a free evacuation from bowels for several days; had high fever last night; ordered mass. hydrarg. gr. x., to be followed by seidlitz powder; had a slight operation during the night; feels more comfortable; no sleep; no pain; very little heat of skin; pulse 108, and rather feeble; pupil of left eye a good deal dilated, the other slightly so. ℞. Mass. hydrarg. gr. xxiv., pulv. ipecac. gr. j., M. div. in pil. viij.; one every two hours.

10*th*. No material change; no movement of bowels; ordered an enema last evening, which operated slightly; feels rather more comfortable; skin natural; tongue loaded with a dirty whitish fur; pulse 110 and feeble; restless and despondent; continue treatment.

11*th*. No better; gave an enema, which produced one free stool; complains of vertigo, and indistinctness of vision; pupil of left eye much dilated; continue pills; apply emp. episp. to neck.

12*th*. Failing; pulse 110, very feeble; answers questions very well; voice very feeble; less restless; heat unequally diffused; body warm; extremities cool; tongue moist, pale, flabby, and covered with a dirty whitish fur; is slightly deaf; very despondent; some thirst; one small stool; says he feels no pain; moans a good deal; continue treatment; allow a small portion of sago frequently.

13*th*. Worse; failing fast; pupil of left eye much dilated; has a convulsive twitching of left leg; slight subsultus; tongue tremulous, protruded with difficulty; fur growing dark; countenance expressive of pain; says he has no unpleasant sensation; no tenderness of abdomen; great thirst; pulse 140 and indistinct; restless; moans when he sleeps; sleep disturbed by startings; breathing difficult and irregular. ℞. Mist. ammon. carb. gr. v., qq. hora; omit pills; wine and water; continue sago; apply sinapisms to feet; blister over the region of the heart.

14*th*. Had low muttering delirium last night; about midnight appeared to be dying; feet and hands very cold; the free administration of stimulants revived him somewhat; complained of difficulty in voiding urine, which is in large quantity, and quite light colored; this morning face pale and shrunken; tongue quite dry, and covered with a very dark brown fur; sordes on the teeth; skin hot and dry about the chest; slight moisture on the hands; appears to be conscious; pulse extremely rapid and fluttering; respiration hurried; apply sinapisms to feet, thighs, and body; continue wine; cannot swallow the mist. ammon. carb.; blister has reddened the skin only slightly. About 10 A.M., was seized with a

convulsion; respiration difficult and slow; pulse fluttering, and scarcely to be felt; features much sharpened; appears to be moribund; frictions to extremities; sinapisms; wine, if he can swallow it.

Died at 4½ P.M. Body not examined.

Case XXX.—*Dec.* 1*st.* Hyppolite Bontems, W. R., Cook, admitted with usual symptoms. ℞. Calomel., colocynth. aa., gr. v., M. ss.

2*d.* Has a slight remission of fever this morning; effervescing draughts.

3*d.* Improving; continue treatment.

4*th.* Has no fever this morning. ℞. Quin. mist. gr. ij., qq. 2da hora.

5*th.* Not as well; faint whenever he attempts to raise himself in his cot; skin hot and dry; tongue red; pulse 96, and feeble; thirst slight; omit quinine; effervescing draughts.

6*th.* Skin hot and dry; tongue clean; pulse 100, soft and small; bowels costive; great depression of spirits; no pain. ℞. Magnes. calcin., pulv. rhei aa. ℈j., aquæ ʒij., M. coch. magn. qq. hora, until it operates.

8*th.* Bowels freely opened; otherwise no change. ℞. Mass. hydrarg. gr. iv. qq. 2da hora; very weak beef tea.

9*th.* Convalescent; no fever. Sol. sulph. quin. qq. 3ia hora; beef tea.

Case XXXI.—*Dec.* 3*d.* Thomas Carey, Seaman, admitted with usual symptoms. ℞. Calomel. gr. xij., ext. colocynth. c. gr. vj. M. ss.

4*th.* Fever high; has pains in back and shoulders chiefly; skin hot and dry; pulse frequent, full, and soft. ℞. Calomel. gr. ij., pulv. rhei gr. iij., pulv. ipecac. gr. ss., M. qq. 3ta hora.

5*th.* No better; cups to epigastrium; continue treatment.

6*th.* Complains much of pain in right shoulder joint; otherwise no change; apply cups to seat of pain; continue treatment; rice and molasses.

7*th.* Has considerable fever; complains much of pain in the back; continue treatment.

8*th.* No change; continue treatment.

9*th.* Better; applied a blister to spine last night, and ordered ol. ricini ʒi., which produced several free stools. ℞. Mass. hydrarg. gr. iv., pulv. ipecac. gr. ¼. M. qq. 2da hora.

10*th.* No change; apply blister to epigastrium; continue treatment.

11*th.* Slightly better; continue treatment; arrow-root.

12*th.* Slightly better; slept tolerably well; pulse less frequent; otherwise no change; continue treatment; arrow-root.

13*th.* Improving; continue treatment; arrow-root.

14*th.* Improving slightly; bowels not open for the last two days. ℞. Ol. ricini ʒi.; continue other treatment; arrow-root.

15*th.* Convalescent; bitter infusion; beef tea.

Case XXXII.—*Dec.* 1*st.* Henry Freeman, Landsman, admitted with usual symptoms. ℞. Calomel. gr. xij., ext. colocynth. c. gr. vj., M. ss.

2*d.* Better; effervescing draughts.

3*d.* Better; continue treatment; bread and tea.

4*th.* Improving; continue treatment; arrow-root.

5*th*. Doing well; continue treatment; rice and milk.

6*th*. Not as well; pulse 120, small and feeble; skin hot and dry; considerable diarrhœa; tongue furred and moist; little thirst; is inclined to sleep; says he feels very well; asked for rice and milk; allow it; weak wine and water; craves effervescing draught; let him take it.

7*th*. No better; pulse 100, and feeble; skin hot and dry; tongue moist; bowels rather freely purged; no pain; sleeps a good deal; stomach irritable; apply mustard to epigastrium; effervescing draughts.

8*th*. Rather better; skin hot and dry; no pain; tongue moist; pupils slightly dilated; great thirst; pulse 108, and feeble; some tenderness on epigastrium; apply blister; mustard to feet; effervescing mixture; sponge skin with tepid water.

9*th*. No material change; pulse less frequent. ℞. Quininæ gr. ij., qq. 2da hora; weak wine and water; rice and milk.

10*th*. No change; no movement of bowels. ℞. Magnes. calc., pulv. rhei aa. ℈j. M. ss.

11*th*. No material change; pulse 92, full and soft; skin cool on head and extremities; hot about the body; tongue clean, pale, swollen, and moist; no thirst; slight pain in the head; pupils of eyes dilated; vision indistinct; sleeps tolerably well; bowels constipated; enema; afterwards ℞. Calomel. gr. ij., qq. hora s.; omit quinine; arrow-root.

12*th*. Pulse 80; feeble; slept well; skin equally warm, and slightly moist; pupils natural; continue treatment.

13*th*. Improving; slept well all night; has a good appetite; pulse, skin, and tongue normal; omit medicine; bitter infusion, ℥ij. qq. 3ia hora; arrow-root, with wine.

14*th*. Improving; continue treatment; oysters; rice and milk.

15*th*. Convalescent.

Case XXXIII.—*Dec.* 3*d*. Pemberton Martinett, Landsman, admitted with the usual symptoms. ℞. Calomel. gr. xij., colocynth. extr. gr. vj., M. ss.

4*th*. Cathartic operated slightly; repeat it; complains of pain in back and lower extremities; has none in the head; skin warm and moist; tongue slightly furred.

5*th*. Doing well; effervescing mixture.

6*th*. Rather more fever; continue treatment.

7*th*. Not as well; pulse frequent and feeble; skin warm and moist; slight diarrhœa; apply cups to epigastrium.

8*th*. Skin hot and dry; pulse extremely quick and feeble (130); thirst very great; slight pain in head; very restless; pain in back very severe. ℞. Mass. hydrarg. gr. iv., pulv. ipecac. gr. ¼, M. qq. 2da hora s. Sponge skin with alcohol and water.

9*th*. Was seized last evening with violent agitation of the tendons of both arms, but chiefly of the left; could not rouse him; pupils much dilated; skin cold and clammy; could not feel the pulse; ordered sinapisms to feet and legs. ℞. Pulv. camphor. gr. v., mass. hydrarg. gr. iij., M. qq. hora s.; brandy and water. This morning is better, can be easily roused; slight coma; pupils less dilated; skin warm; pulse feeble, and very frequent; much less spasmodic twitchings of the tendons; continue the treatment prescribed last evening; blister to back of neck.

10*th*. Improved greatly; subsultus tendinum nearly gone; tongue clean; pulse 74, full and soft; skin moist; no thirst; no pain; omit

medicine. ℞. Quin. sulphat. gr. ij., mass. hydr. gr. iv., M. qq. 2da hora s. Rice and milk.

11*th*. Better; pulse 72, full and soft; no pain nor thirst; no subsultus; tongue clean; skin moist; continue quinine; appetite good; rice and milk; beef tea for dinner.

12*th*. Convalescent; oysters; discharged.

Case XXXIV.—*Dec.* 4*th*. Joshua P. Halliday, Seaman, admitted; complains of pain in head, back, and extremities; great thirst; dry, hot skin; pulse full, soft, and frequent; tongue red, and slightly coated with a yellowish fur; bowels costive. ℞. Calomel. gr. xij., ext. colocynth. c. gr. vj., M. ft. pil. ij. ss.

5*th*. Rather better; mustard to feet; effervescing draughts.

6*th*. Vomited nearly all night; stomach rejects everything; skin hot, and very moist; pulse 94, and very feeble; tongue very red; applied cups, and afterwards mustard to epigastrium; continue effervescing draughts.

7*th*. Better; has very little fever this morning; no vomiting; bowels free; continue treatment.

8*th*. Pulse 88, full and soft; skin cool and moist; eyes very red and watery; had no sleep; very restless; complained of being chilly during the night; bowels open; has some pain at the base of the brain; apply emp. episp. to nape of neck. ℞. Quin. et rhei gr. ij., qq. 2da hora.

9*th*. Rather better; slept tolerably well; pulse 100, soft and feeble; add. mass. hydrarg. gr. ij., to the quinine and rhubarb.

10*th*. As yesterday; continue treatment.

11*th*. Better; has a slight remission; continue treatment.

12*th*. Better; pulse 80, full and soft; no febrile symptoms; says he has a good appetite; continue treatment; rice and milk.

13*th*. Convalescent; bitter infusion.

Feb. 9*th*. Surveyed, condemned, and sent to the United States.

(*To be continued.*)

PART SECOND.

Critical Analysis.

ART. XI.—*Lectures on the Theory and Practice of Medicine.* Delivered by PROF. CHAPMAN, in the University of Pennsylvania; prepared with permission, from DR. CHAPMAN'S manuscripts, and published with his approbation. By N. D. BENEDICT, M.D. Phil.: Lea and Blanchard, 8vo., pp. 258.

WE are somewhat at a loss to know whether we are to consider Dr. Benedict as the Editor or the Author of the present work; for if it is a "compendium" of Prof. Chapman's Lectures as alleged, we then see no particular propriety in claiming it as a production of his own. Dr. B. says in his Preface, that "the *author* (i. e. himself) expects it to stand *chiefly* upon the merits of the great man, on whose voluminous writings it is founded." Now the work is, or is not Dr. Chapman's. If it is partly Dr. C.'s and partly Dr. B.'s, why call it a compendium of Dr. C.'s Lectures at all? We do not wish to be hypercritical, but we wish to know whether *all* the opinions advanced in these pages belong to Dr. Chapman, or whether they are part interpolations of Dr. Benedict. We object decidedly to any mongrel or hybrid productions of this kind; but if we are to have them, let us know to which of the respective authors the different parts belong. We shall, however, assume the entire work to be Dr. Chapman's.

The chief use, we take it, of the present compendium is, as a Text-Book for those students who attend Dr. Chapman's Lectures; for others, we think it very meager and unsatisfactory, only exciting hopes that are sure to be disappointed. To present merely the heads of a subject, may serve to revive it in the minds of those who heard the eloquent prelections of the author; but those who have never enjoyed this advantage, will find nothing in this book, which might not be compiled from the most meager treatise on the Theory and Practice of Medicine. Indeed, for want of the arguments which Dr. C. usually advances in support of his opinions, the reader will meet with many things to which he cannot subscribe, though dogmatism stand in the place of positive facts. We need but specify a few examples of this kind.

And first, the doctrine that *there is no idiopathic fever*, but that "all fevers are sympathetic of a primordial local disturbance" (p. 23). The proof advanced in support of this untenable and exploded theory is most unsatisfactory. Because in the true *phlegmasiæ*, as fever following injuries, &c., the febrile action is the result of local injury and disturbance, *therefore* we are told that we have reason to believe that the same holds true with respect to the "so-called idiopathic fevers," which are caused

chiefly by contagion, marsh or other effluvia, excesses of temperature, atmospheric vicissitudes, or epidemic agency. Now the main argument in support of the doctrine is expressed in a few sentences, which we fear would hardly convince the merest tyro in medicine.

Moreover, what proof have we that *malaria*, or "atmospheric impregnations" only get into the system by "being entangled in the saliva and swallowed?" What prevents their introduction through the lungs or the skin? If fever is the result merely of sympathy, we prefer to believe that the first impression is made upon the nerves supplying the respiratory passages by the contact of morbid matters inhaled, and not upon the nerves of the stomach, of which there is no proof, and which seem to be out of the reach of atmospheric impregnations! Why rather may not *the blood* become early contaminated, by these emanations floating in the respired air, passing into the blood, along with those constituents of the atmosphere which partially enter it, and thus produce a disease of the whole frame, by vitiating the vital fluid? We know that Dr. Chapman was early committed against humoralism, and on the side of solidism; but certain facts have been disclosed by modern research and investigation, which can be neither denied nor explained away, and which ought to lead to a reconsideration of this subject of fevers, and a remodelling perhaps of theories and doctrines. Every practising physician must have observed that there are certain diseases, called fevers, in which there seems to be a general change, or succession of changes, common to all the organs, and nearly all the textures of the body, which are plainly distinguished from all *partial* changes and their effects. Cases of fever are not unusual, where we discover no evidence of inflammation or congestion in any part of the body. All the phenomena of fever are different from those of local affections—the circulation, the state of the secretions, the nervous system, the blood, all show a disease of a general nature, affecting every organ and every function; leaving often, it is true, morbid appearances in different parts, owing to accidental complications, which are, however, the effects, not causes of the general malady.

We are surprised to find Professor Chapman still reiterating, at this late day, the exploded doctrine that "no unnatural substance enters the blood in a healthy state, unless by injection," a doctrine, we venture to say, that is not held by a single physiologist living, deserving the name. We do not feel called upon to refute such a statement, it has been done again and again; the advocacy of it either implies an unwillingness to receive demonstrated truths, or a strength of prejudice which leads astray and blinds the judgment.

We are told that "Louis located the origin of fever in the glands of Peyer and Brunner;" had Dr. C. used the term *typhoid*, the statement would have been correct. It is also stated that Dr. C.'s views of the pathology of fever were not borrowed from Broussais, as "they were announced long anterior to any of Broussais's writings." This looks like an attempt to claim for them the merit of originality, to which they are by no means entitled. The remarks on the treatment of this class of diseases, skeleton-like as they are, will be found judicious as far as they go, but altogether useless as a guide to the practitioner, as they do not point out the various circumstances by which the *modus medendi* is to be governed.

Under "Intermittent Fever," we are told that "marsh miasmata," to which this class of fevers owes its origin, "*proceed from soils, particu-*

larly the argillaceous, and not from the decomposition of organic matter!" and we are referred to Dr. C.'s treatise on "Epidemics," for the proof.

It is some time since we read this treatise, but, if our recollection serves, we sought in vain for anything in the shape of *proof* for the doctrine in question. If there is any one fact that may be regarded as established, connected with the causation of disease, it is, that intermittent and remittent fevers owe their origin to a principle developed by the decomposition of vegetable matter. To deny this, because we cannot as yet detect this principle by chemical analysis, is in the highest degree irrational and preposterous. It will not always do in medical reasoning to adopt the maxim, "*de non apparentibus et non existentibus eadem est ratio.*" The cause of the intermittent character of these diseases is not made entirely clear on the professor's hypothesis of their local gastric origin. It is very plausible to assert that the paroxysm comes to an end in consequence of the excitability of the system being exhausted, and that when this is recruited the paroxysm is renewed; but then the question recurs, why are not all diseases periodical? Dr. Chapman is also somewhat behind the age in his notions as to the proper treatment of intermittents. We are told that cures effected by *quinine*, though rapid, are not the most radical; that bad effects follow its exorbitant use; that the best mode of administering it, is to give *one grain* every hour during the *apyrexia*. This will do in mild cases of fever and ague; but late experience has abundantly proved that this is not the best way to treat severe and aggravated forms of the disease. Here it is large doses, five, ten, twenty, and even, in some cases, thirty grains, that best arrest the complaint, and effect the speediest and most "radical" cures. Dr. C. thinks that *arsenic and sulphate of copper* are superior to quinine in chronic cases, and also as respects completeness and permanency of cure. To prevent a paroxysm of the pernicious congestive intermittent, we are told that "the most efficacious appliance" is a blister to the epigastrium, so as to be fully drawing at the time of the expected accession,—a practice which we know to be wholly inert, and worse than useless. The personal experience of Dr. Bell on this point perfectly coincides with our own. (See *Bell and Stokes's Lectures: Intermittents.*)

On the treatment of "Remittent Fevers," Dr. C. is judicious and discriminating. *Bleeding*, as in nearly all other diseases, is his first and most important remedy; mercury is recommended as a purge at first, and afterwards as an alterative in small doses. He thinks the mercurial impression cannot be produced in the height of the fever, and that when it has subsided it is not needed: the mercurial action being the *effect* and not the *cause* of the improvement. As to the supposed properties of mercury as a *regulator* of the hepatic function, checking the secretion of bile when too copious, and increasing it when too scanty, we are yet to be convinced. It would, we confess, be very desirable to have this power of blowing hot and cold at the same time, stimulating and not stimulating by the same agent, and in the same doses, but we suspect that this property is yet to be proved in relation to this agent at least. Much credit is doubtless due to Professor Chapman for pointing out the abuses of mercury, and cautioning the profession against its extravagant and pernicious uses.

Under "Continued Fevers" we are told that some of them arise from "Marsh Miasmata," that all of them are disposed to observe some one of the various primitive intermittent types—that the most common of

them are the congestive forms of the common autumnal remittent. "The old and familiar title of such fevers," says Prof. C., "is *Typhus.*" This appears to us, confounding diseases which are really distinct, and introducing confusion where order and system are very desirable. If *Typhus* is to be treated of under continued fevers where it may very properly be placed, it should be considered as a peculiar and distinct form of disease; and not regarded as a fever produced by marsh miasm, which it never is. Dr. C. would seem to have adopted the strange doctrine advocated by Armstrong, in the latter part of his life, viz., that typhus arises from malaria, is essentially the same disease as intermittents and remittents, and differs from them only in type. Dr. Hosack also runs into the same error. Speaking of the remittent fever that prevailed at Kingston (Ulster County, N. Y.), Dr. H. remarks (Lectures, &c., p. 302), "The *Typhus* fever, as it appeared at the Wallkill, commenced as an Intermittent, then became Remittent, and at length ended in *Typhus.* The same thing has been frequently observed of the Lake fevers. They commence, for the most part, in an intermittent form, but by their duration they become remittents, and at length terminate in Typhus." Now, the true *typhus* fever not only differs from the common inflammatory (continued) remittent fevers in its phenomena, but also in the causes whence it has its origin. It is marked by stupor, delirium or typhomania, and often by a peculiar cutaneous eruption, from an early period of the attack, as well as by the determinate course and regular succession of all the febrile changes, and then it originates always, we believe, from an animal miasm, generated either by a number of persons confined in a close air, or by the disease itself. The air is thus contaminated, and infects the frame through the respiratory organs, either directly or indirectly, by means of substances capable of retaining it for a time and giving it out on exposure to the air. For a good description of true typhus the reader is referred to Copland's "Medical Dictionary," or to Bartlett "On Fevers;" he may also consult another part of our Journal (p. 353) for some remarks on the same subject. Dr. Chapman, in his description of typhus, has blended the symptoms of our autumnal remittent, as well as those of common inflammatory fevers, with those of true typhus, and we have consequently a picture neither distinct in its outlines, nor true to nature. Dr. C. is not satisfied that *true typhus* ever rises from *contagion;* meaning by the term "*a virus secreted by the capillaries* and capable of reproducing the disease." He, however, admits that the cause, whatever it is, is often carried by *fomites*, which, he says, may be retained in clothes, &c., for a long time, and thus give rise to the disease, the incubative period being from eight to ten days. Now, then, why should Dr. C. doubt that this virus is an *animal secretion?* What else can it be? are we to suppose, because it may be generated primarily, in close, crowded quarters, that therefore it is not the result of animal secretion, and that it is incommunicable? The small-pox furnishes us an example of a virus, the product of animal secretion, being carried by fomites, and yet highly contagious, and so it may be in typhus.

Dr. C. attributes typhus fever also to a want of oxygen or excess of carbonic acid, as in crowded assemblies; to penurious diet, miasmata, extreme heat or cold, to inadequate evacuations, or a too early resort to stimulants in other fevers. Of course our *diagnosis* is to be governed by the *nature of the cause;* the symptoms varying, we are told, as the disease

is caused by *contagion*, or *malaria, heat, cold, penurious diet, &c.* Here again is confusion worse confounded.

Under "Autopsic Appearances," we read that "according to the observations of Louis, Chomel, and Cruveilhier, ulcerations of the glands of Peyer and Brunner, with lesions of the spleen, constitute the most uniform pathological characteristics of this fever, so that it has received the name of *dothinenteritis*." We thought that it was of the "*Typhoid*" fever, that these pathological changes were characteristic. Such a disease (which we regard as one species of true typhus) is now admitted by our best pathologists, and we are surprised to find so little allusion to the subject in the Lectures of Dr. Chapman. Under the head of "Malignant Typhus," we find mention, indeed, made of *Typhoid Fever*, and we are told that the notion of there being a fever "of a distinct nature, originating in, and kept up by a particular lesion, is preposterous in itself and as yet gratuitous"—we are not aware that this is the doctrine now held in relation to typhoid fever. No one supposes that the disease *originates* in this lesion, any more than that *small-pox* originates in the pustular eruption, or scarlatina in the florid efflorescence, but it is believed that this lesion is a pretty uniform attendant, bearing to the disease the same relation as the cutaneous phenomena, in the above diseases, to the diseases themselves; moreover, we have cases of scarlet fever, and of measles, without any eruption. Dr. Chapman expresses his doubts whether chlorine fumigations have any disinfecting properties, and thinks them inapplicable from the oppression they cause the patient. We believe it is now very well established, that chlorine has the property of destroying the principle of contagion or infection, and the success with which it is employed for this purpose fully warrants such a belief.

Yellow Fever is the next disease treated of by Professor Chapman. We are presented with a brief but accurate sketch of the symptoms of this malady, drawn apparently from nature. With respect to its causes, Dr. C. thinks that it is of domestic origin, but that it may be generated from the materials which are contained in the holds of ships, and that it is never carried by *fomites*. Dr. C. also believes that the distempered atmosphere of a port at which the yellow fever is raging may be confined in the hold of a vessel which is hermetically sealed, until the hatches are opened in another port, and that during this time the crew will not be subject to the disease, though they may acquire it at the opening of the hatches; also, that when the miasm is generated from a putrefying cargo, the crew may be exempt until the hold is opened. But the great source of yellow fever, in the opinion of Dr. Chapman, is the putrefaction of domestic filth in certain positions, as in Philadelphia, Baltimore, and New York, in 1805. He supposes that the generation of the miasm is dependent on a certain unknown constitution of the atmosphere, and that it is therefore probable that exhalations from filth, local or imported, will be productive of this fever under *all circumstances;* he, however, thinks that its tendency to spread is enhanced by high temperature steadily preserved. Dr. Chapman, notwithstanding the overwhelming evidence to the contrary which has accumulated during the last few years, still adheres to the opinion originally asserted by him, that the miasm of yellow fever is never generated at any great distance from water, and, in short, that this is an element always necessary to its introduction. We shall not combat this opinion, which, so far as we know, is peculiar to Dr. Chapman, but pass on to his remarks in relation to its contagiousness.

By contagion Prof. C. understands, "a virus generated in one individual, through vitiated vascular action, capable of communicating the disease to a second, and so to multiply it indefinitely." In opposition to this, among other things, Dr. C. states that the yellow fever is sometimes an epidemic in its nature, causes, and effects; that it never spreads when the patient is removed from the infected districts—that it is invariably suppressed on the appearance of cold weather—that, unlike contagious diseases, it simultaneously appears in remotely separated positions—that nine-tenths of the profession are in favor of its non-contagious character, &c. The late Dr. Hosack, as is well known, considered the disease as contingently contagious—that an infectious miasm is generated by the sick, which is a primary agent in the propagation of the disease,—but that it requires some peculiar conditions of the atmosphere, as vicissitudes in the electrical conditions, or the presence of certain miasms, to render this cause sufficiently intense and operative, as to give the disease the character of an epidemic.

We have not space to pass in review the different topics treated of in this work, and must therefore bring our remarks to a close. We can recommend it, however, as a very life-like skeleton—a faithful analysis of Dr. Chapman's discourses, in which the heads are clearly laid down—the thoughts tersely expressed—the general principles properly emphasized—the *lucidus ordo* duly studied, and accuracy carefully exhibited—but which gives no more correct idea of the erudite, elaborate, and highly-finished lectures of the learned professor, than a single brick or piece of mortar would of the Capitol at Washington.

ART. XII.—*Pulmonary Consumption, successfully treated with Naphtha.* By JOHN HASTINGS, M.D., Senior Physician to the Blenheim Street Free Dispensary. London: John Churchill. 8vo., pp. 120.*

THE following sentences conclude the work before us:

"Single-handed, if I may be allowed the use of the expression, it (Naphtha) has cured Pulmonary Consumption in almost every case in which it has hitherto been used, when the disease has been treated in an early stage. And from what I have more recently observed, although I do not consider myself justified at present to publish it, I am most sanguine that, even in the later days of the disease, a restoration of health may generally be calculated upon."—P. 120.

Thus introduced as a remedy of no ordinary value, in the treatment of a disease uniformly fatal, it is not strange that naphtha was received with great favor at first in Europe, and subsequently in this country. Nearly two years have passed since medical attention was first directed to it:—ample time for its virtues to have been tested. Has it "single handed," or in conjunction with other remedies, "cured consumption in

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* Since this review was written, we learn that a second edition of this book has been published in London, which has not yet reached us The pages referred to are those of the first edition.

almost every case?" Have the results predicted for it been realized? Is it to be relied on in the treatment of consumption? Let us examine Dr. Hastings' argument, and then his evidence.

Those who have read the passages first quoted above, and the following ones, will be justified in supposing that Dr. Hastings believes in the curability of consumption:

"From the very first moment I employed Naphtha in Pulmonary Consumption, up to the present time, it has been so successful in my hands, that I have no doubt it will be found little less than a specific in the earlier stages of the disease. This can scarcely be saying too much, when, in the more advanced stages, where some destruction of the lungs has ensued, recovery has most unquestionably been effected."—P. 8.

But these opinions of curability do not coincide with the one expressed on page 5:

"For my own part, it appears inconsistent with probability that tuberculous abscess of the lung has ever been cured: for, if it had, how is it that recoveries do not take place upon a repetition of the attested successful treatment?"

Does Dr. Hastings here mean that tuberculous abscess has never been cured, except by Naphtha; or does he not consider that abscesses are included "in the latter stages of the disease," where "a restoration to health may generally be calculated upon?"

The first chapter of the work is on the causes of consumption, and commences thus:

"Whether tubercle be due to an unhealthy condition of the nutritive process, tending to the production of such a morbid condition of the blood, as to dispose the organism to generate pulmonary consumption in preference to any other disease, is an opinion, which, if admitted, is of so vague and indefinite a character, that it throws little or no light on the obscurity of the subject."

It is of the highest importance in the treatment of diseases, that we should have some well-defined ideas as to their true cause: for, in proportion as we understand their cause, so we will be enabled to select and employ our remedies. Unfortunately the pathology of consumption is as yet but little understood, and in this fact we may find one reason why its treatment has been in general so unsatisfactory.

It is of little real practical value whether Dr. Bennet or Dr. Hastings first discovered the cryptogamic plant in the expectoration of persons affected with tubercles, or whether the globules in such cases are round or spherical,—or whether "further investigation may prove, that the last change effected in tubercles, before being expelled from the lungs, is a return to that normal structure from whence they derived their existence —which will be not only a curious, but highly interesting fact."—P. 46.

Curious enough though these matters may be, they assist us but little in the treatment. It is not, however, a matter equally unimportant whether we believe tubercle to be the result of inflammation, or whether it is in no way dependent on it; whether, according to Dr. Symonds, tuberculous deposit "takes place by a mechanism as simple as that of serous and fibrinous secretion, but implies an alteration in the blood itself," or whether we believe with Dr. Gross, that tubercle is the result of a modified or perverted secretion, attended or preceded by active san-

guineous congestion;" whether tubercle be due to an unhealthy condition of the nutritive process, or whether, according to Dr. Evans, tubercle be a disease depending upon "deficient force of growth."

In the work before us, all these theories are thrust aside, and we have substituted the following one, which is given in Dr. Hastings' own words:

"I was led to the conclusion from a careful survey of the chemical analysis of tubercle made by Thenard, and the only analysis of this morbid product in a crude state that I am aware has been made, that it (the ordinary method of treating consumption) was defective, inasmuch as the composition of the animal matter, which, it will be observed, amounted to upwards of ninety-eight parts out of a hundred, had not been investigated.

Animal matter	98.15
Muriate of soda	1.85
Phosphate of lime	
Carbonate of lime	
Oxide of iron, a trace of	

"From the greasy nature of tubercle in its crude state, there did not exist the slightest doubt in my mind, that carbon entered largely into its formation, and that its composition had a striking resemblance to fatty matter. * * * * It may be readily conceived that the morbid action which had for its end the formation and maintenance of tubercles in the lungs, would in a great measure lose its influence over them, when they became softened, and more or less separated from the living tissues with which they were formerly in close connexion. For among the changes in the earlier stages of consumption none is more remarkable than the disappearance of fat, and as the disease advances, all the tissues of the body become more or less attenuated, the muscles of involuntary motion excepted, which it is alleged do not obey this destructive process. There is however a want of facts relative to this point to thoroughly decide the question. In consequence of the loss of fat, I determined to employ those compound agents rich in carbon and hydrogen, which had not been previously used in medicine: not with the idea that they would make up the deficiency, which the system had sustained in the progress of the disease, but that such a change would by that means be introduced into the constitution as would act upon the forces of the organism at the point of departure from health, whether that took place in the stomach, blood or elsewhere:—that change tending to such an affinity in the elements within the body, that the carbon, hydrogen, oxygen, and nitrogen, instead of assisting in the formation of products which threaten life, would tend to develope those materials only, which are required for the perpetuation of health, and the prolongation of existence. Naphtha, from its chemical composition and unknown properties as a remedial agent, appeared to me the most likely to stop the ruthless progress, which consumption has effected, and is still effecting on man."—Pp. 45, 47.

This theory, which certainly has the merit of being new and very obscure, may be summed up as follows:—That tubercle being from analysis, rich in fatty matter, consumes the fatty matter from all parts of the system, to which circumstance is owing the emaciation, in consumption: therefore "those compound agents, rich in carbon and hydrogen," must be employed to make up the deficiency, where the disease has already progressed, or in its incipient stage, to act upon the "forces of the organism" in such a manner as "would tend to develope those materials only which are required for the perpetuation of health, and the prolongation of existence;"—certainly a very desirable point, but requiring, we fear, a nicer discrimination than the naphtha possesses.

This is not the place to discuss at length the nature of tubercle, even

did we feel so disposed, and having done full justice to Dr. Hastings's opinion on this subject, by giving his theory in his own words, we are content to let our readers judge of its merits, though we freely confess, we do not fully comprehend it.

We pass at once to the consideration of the naphtha treatment. In the employment of this remedy, it is of the utmost importance that it should be the pure *pyro-acetic spirit.* Dr. Hastings' test was "its colorless and transparent character, and agreeable ethereal alcoholic odor, its specific gravity which was 0.823 to 0.824: its increase of temperature consequent upon mixture with water; its preservation of appearance on the addition of nitric acid, and its taste being warm, without the least sensation of burning."—P. 50.

The impure naphtha produces a burning sensation in the throat, nausea, and in some instances sickness, headache, palpitation, and fainting. The naphtha is administered internally in doses of 15 drops, three times a day, gradually increased to 40 or even 50 drops. It has also been used by inhalation, and the experiments which led to its employment in this form, are so conclusive (?) that we cannot forbear quoting them:—

1st. "A little naphtha having been put into a bent tube, resembling the capital U, some expectorated matter was poured upon it, which had been determined, with the microscope, to be rich in globules of tubercle. Gentle heat was then applied, and the naphtha driven off, when the super-imposed secretion presented a mere shapeless mass of animal matter, the globules having entirely disappeared.

2d. "Some tuberculous secretion, highly charged with globules of tubercle, was placed under the field of the microscope, and a drop of the naphtha added, when an immediate disappearance of the globules ensued, leaving behind a mass of the same character as in the former case. The frequent repetition of this experiment invariably led to the same result.

3d. "Some tuberculous secretion of the lungs was put into a portion of the intestine of a child, and placed over a wide-mouthed bottle, which contained a small quantity of naphtha, between which and the intestine a clear space of three inches remained. A spirit lamp was then placed under the bottle, and a very gentle heat applied until slight ebullition took place, which was continued for an hour. The contents, when removed from the intestine, and examined with the microscope, presented the same appearance as described in the previous experiments."—Pp. 52, 53.

It is, perhaps, fortunate, that a portion of these same "globules rich in tubercle" was not at the same time subjected to the action of the nitric or sulphuric acids, or a solution of the nitrate of silver, or a portion of the intestine filled with tuberculous secretion, exposed to the fumes of sulphur or chlorine, for there might have resulted another "shapeless mass of animal matter, the globules having entirely disappeared," and therefore, these mild chemicals proposed as "little less than a specific" for consumption.

Thus much for Dr. Hastings's argument; let us now look a moment at his evidence, which is by far the more important part. This consists of thirty-seven "cases of pulmonary consumption," in all of which was the naphtha used, and all terminated favorably; and that too in many in-

stances, under very unfavorable circumstances; the patients, for the most part, being out-door Dispensary patients, living on bad food, and deprived of good air and suitable clothing. There is no mention made of any failures.

We have no wish to deny to Dr. Hastings the ability to make correct diagnosis, but we have the right in the cases before us, some of which are quite lengthily drawn up, to complain of the poverty of accurate information with regard to many of the symptoms which characterize a tuberculous condition. The account of the physical signs, those signs so important in the early stages of consumption, is most meager and unsatisfactory. Indeed, the account of these symptoms seems to have been taken in that random, careless manner, so common in large Dispensaries. "Slight dulness" on one or both sides, in the region of the clavicles, and "harsh respiration," or "an almost entire absence of the respiratory murmur," constitute, in almost every case, the full report of the physical signs. In six of the thirty-seven cases, mention is made of the "dry crackling *râle*," but we have yet to learn that this *râle* depends upon a tuberculous condition. In but one of the cases is any mention made of auscultation of the voice or cough. Neither is there any account of the nature or quantity of the expectoration.

But let us give, in a condensed form, the first two of these cases, all that we have room for, that the reader may judge for himself: they are a good specimen of all the others, and nothing is omitted that is important.

Case I.—"C. T., ætat. 18, applied in November: mother and brother died of consumption. For several years has suffered from cough and difficulty of breathing, especially on going up stairs. Has cough, expectoration and some emaciation. Percussion dull on the right side, and respiratory murmur absent in places. On the left side percussion a little dull, respiratory murmurs rough and jerking. Was put upon the naphtha treatment internally and by inhalation, and in April (seven months), the cough and the breathing had entirely disappeared, and he had gained both flesh and strength, and although there was still slight expectoration, the sounds of the chest were almost natural."

Was this a case of tubercles? Would it not more readily pass for a case of chronic bronchitis, chronic emphysema, or dilated bronchi? And was it cured?

Case II.—"Ann S., unmarried, ætat. 24: lost father, mother, and one brother, from consumption; admitted 29th January. For the last three or four winters had suffered from cough, and repeated attacks of inflammation of the bowels; cough severe; palpitation and emaciation; pulse eighty; bowels irregular, and pain at the pit of the stomach after eating. Percussion yielded a duller sound over the right anterior superior region than over the left; the respiratory murmur over the right clavicular region was nearly inaudible, and when distinguished it was both feeble and harsh. Over the same region, on the other side, it was puerile." She was put on the naphtha treatment, as in the previous case, with some aperient pills, "to correct the state of the bowels." "On the sixtieth day the cough and expectoration had almost entirely disappeared; the palpitation was sometimes troublesome, but she had gained both flesh and strength, and natural sounds were the result of percussion and auscultation. For the purpose of relieving the palpitation, she was directed to take two grains of the hydriodate of potash, with each dose of the naphtha.

On the 6th May, being the hundredth day of her placing herself under my care, she had neither cough, expectoration, nor difficulty of breathing, and considering herself well, ceased to visit me."

Does this read like a case of tuberculous consumption? Do not rather the pain after eating, the irregularity of the bowels and appetite, and the disposition to inflammation, denote a gastric or intestinal affection (chronic gastro-enteritis, we should say) with the cough as sympathetic, than a disease of the lungs? Have we not a right to expect, in a case of consumption with a cough of "three or four winters'" standing, a greater departure from health in the physical signs, than those just detailed? The case was certainly well treated, but we cannot think it was one of consumption. The laxative pills and hyd. potassæ were well calculated to improve the condition of the digestive organs, and when these recovered their healthful condition, and spring came, for it was May when the patient was discharged, we are led to suppose that the cough had hitherto only existed in winter. The cough and expectoration ceased.

In the twenty-third case, there was a cavernous *râle* over a small space, with perfect pectoriloquy. The cough and expectoration had existed for several years, and latterly had become worse. On the thirty-fourth day of the naphtha treatment, "percussion yielded a much clearer sound, and the respiratory murmur was improved. The cavernous *râle* was less distinct, and the pectoriloquy could not be detected." The respiratory murmur natural on the opposite side.

We look upon this case as the most successful one of the whole number, and we are sorry we have not information as to its result.

We have no wish to deny that the naphtha is a remedy of some, nay, of much value. Dr. Braithwaite thinks that its virtues in the treatment of pulmonary affections depend upon its expectorant properties; Dr. Bennet (Editor of the Medical and Surgical Journal, April, 1845, p. 406) believes that its good effects are due to its power of allaying the irritability of the stomach, and thus enabling the patient to take food. If it possesses either or both these properties let us add it with pleasure to our list of valuable remedies; but let us not, in the treatment of a disease so unyielding as consumption, rely for success upon a remedy of so little power. Whatever be the true pathology of tubercles, we are well convinced that the remedy which opposes successfully their development, must be a constitutional one; such an one we do not believe the naphtha to be.

One word in conclusion, upon our own experience with this remedy. We have used it faithfully, in perhaps a dozen cases; in chronic bronchitis and dyspepsia, we have found it of some service; but even here the improvement was most often only temporary; but neither in the early or later stages of consumption have we found it to produce any effect whatever.

H. V.

ART. XIII.—*An Essay on the Use of Narcotics, and other Remedial Agents calculated to produce Sleep, in the Treatment of Insanity.* For which the Author obtained the Lord Chancellor's Prize in Ireland, awarded by the President and Fellows of King and Queen's College of Physicians. By JOSEPH WILLIAMS, M.D. London: John Churchill, 1845. Pp. 120.

ALTHOUGH the ostensible object of this work is simply the discussion of the effects of soporific remedies, yet, as a whole, it is one of the most valuable practical works upon the therapeutics of Insanity which has hitherto been published. It is especially valuable to the physicians of the United States, inasmuch as it is the most accurate exponent of the treatment of mental disorders pursued in the asylums of this country.

Bleeding "is occasionally, though rarely indicated," "all modern authorities condemn its employment, except under peculiar circumstances." "We must never be deceived by mere vascular excitement, but when it is considered necessary to take away blood, and yet the powers of the patient would not justify general bleeding, cupping or leeches may be resorted to." "*Irritation* is confounded with *inflammation*. The maxims so ably taught by Mr. Travers are forgotten; the object being to *calm the action, not to diminish from the power*." "If bleeding be indicated, it is almost invariably in the early stage."

Purgatives are recommended to subdue vascular action, when the propriety of bleeding is doubtful. The state of the bowels should always be observed, and "purgatives are useful in both the acute and chronic diseases." The particular purgative used must be governed by the symptoms.

Emetics are useful in some cases of vigilantia, and "the continued action of tartar-emetic cannot be too much lauded in some incipient cases of mania." Emetics should be avoided in paralytics, and in all cases where there is too great a tendency of blood to the brain. ("When antimony is given, in cases of vigilantia, merely for the purpose of subduing excitement and procuring sleep, I give it in repeated doses, sufficient to cause continued nausea, without producing emesis."—P. E.)

Opium, if its sedative effect be desired, should be given in full doses, and repeated; "less than one grain will seldom be useful." It "is contra-indicated where there is great heat of the skin, with extreme restlessness and determination of blood to the head;" also "where the system is plethoric, unless depletion or purgation, or both, have preceded it." In debilitated constitutions, in cases of high nervous excitability, and in puerperal mania, opium is particularly useful.

Morphia is preferred to opium, where the latter produces those unpleasant effects sometimes following its use. "The hydrochlorate (of morphia) is the most valuable remedy we possess for calming excitement." (The sulphate is generally employed in the United States."—P. E.)

"*Digitalis* is a decided narcotic." "When there is considerable arterial action, with vigilantia, after having well purged, digitalis will very often reduce the power and frequency of the pulse, and sleep follows." "If excitement be excessive, and this arise from acute inflammation, tartarised antimony must precede it." The tincture is preferred; "about ten minims every six hours, is an average dose to commence with in maniacal cases."

Hyosciamus, in cases of high nervous irritability, and in those where

opium is contra-indicated, is very useful. The author thinks that, like digitalis, it "accumulates in the system," and hence should be employed with caution. "Opium, in combination with hyosciamus, is often rendered much milder and more uniform in its action. With camphor, henbane is very useful in producing sleep, and tranquillizing the irritability of the insane." "Several fatal cases have occurred from exhibiting henbane as an enema."

Conium "is not at present much used *as a hypnotic;* it will, undoubtedly, sometimes calm nervous irritability, but does not seem to possess the tranquillizing powers of hyosciamus." ("In the asylums of the United States, conium is probably used much more extensively than hyosciamus. I give it frequently and in large doses, and generally in combination with the carbonate of iron. It is chiefly valuable as a deobstruent and alterative."—P. E.)

Camphor, "given in small doses, acts only as a stimulant. From ten to fifteen or twenty grains must be given to produce its sedative effect. It may be necessary to combine it with opium, hyosciamus, digitalis, &c. (chiefly used in this country in combination."—P E.).

Belladonna, hydrocyanic acid, colchicum, stramonium, and aconite are mentioned, and the stimulant nervines.

Warm baths. "There are many cases of insanity where there is want of sleep, in which it would be perfectly useless to prescribe narcotics, but very good effects constantly follow the judicious use of warm and tepid baths;" "96° Fahrenheit may be usually considered as the best temperature for a warm bath for the insane."

"The semi-cupium and pediluvium are both very useful in counteracting determination of blood to the head."

The ice-cap is preferred to the douche, for cooling the head.

The cold bath, and the cold shower bath are thought to be useful in some cases.

"If cold be applied to reduce superfluous heat, sponging the body with cold water is most effectual."

There are many cases of insanity accompanied by cerebral inflammation, or excessive vascular action, that would contra-indicate the use of opium or one of its preparations. Yet if these remedies be employed, the secretions are checked, particularly those of the mucous follicles of the alimentary canal; the fauces, mouth and tongue become perfectly dry, and the latter covered with dark sordes, as in typhoid fever. It is hardly necessary to remark that when these effects are perceived, the opiate should be suspended, and the secreting vessels restored to their normal action by the use of small doses of calomel, or the blue mass. After this is done, the narcotic may be exhibited with safety and advantage.

P. E.

ART. XIV.—*On the Theory and Practice of Midwifery.* By FLEETWOOD CHURCHILL, M.D., M.R.I.A. With notes and additions, by ROBERT M. HUSTON, M.D., Professor of Materia Medica, and General Therapeutics, and formerly of Obstetrics and Diseases of Women and Children, in the Jefferson Medical College of Philadelphia, &c. Second American Edition, with 128 Illustrations. Philadelphia, Lea and Blanchard, 1846, 8vo., pp. 525.

IN this age of books, when much is written in every department of the Science of Medicine, it is a matter of small moment to the student, which of the many he shall choose for his study in pupilage, and guide in practice. In no department is the choice more difficult than in that of Midwifery; many excellent and truly valuable treatises in this department of medicine have, within a few years past, been written; of this character are those of Dewees, Velpeau, Meigs, and Rigby. With due respect to the authors of the works just cited, we are compelled to admit, that to Mr. Churchill has been reserved the honor of presenting to the profession, one, more particularly adapted to the wants and use of students—a work rich in statistics—clear in practice—and free in style, possessing no small claims to our confidence.

The object of this work is to present to the student and young practitioner, the more "modern discoveries in the physiology of the uterine system, with all the recent improvements in practice, in a condensed form." This the author has accomplished in a happy manner. The notes by the American editor, upon the physiology of the uterine system, render this portion of the work complete. We shall not be able, for want of room, to go into a full review of the work before us; but there are some portions which we cannot refrain from noticing.

That portion of chapter fourth, treating of "Variations from ordinary Convalescence," is of *great* practical value to the young practitioner, and deserves his most serious attention (it is alone worth the price of a dozen copies)—which every reader must acknowledge, who has seen much of the perplexity and doubt that arise in the treatment of such cases.

The note of the editor under this head deserves to be committed to memory, and not only committed but remembered at the side of the patient; or the realization of the "worst anticipations" may be the result.

The chapter on the "Induction of Premature Labor" is made up of statistics, being the most complete of anything we have seen on this subject. It is this kind of information which must guide the practitioner in his decision and prognosis. On the use of the forceps, our author has shown great research, and the statistics presented here tend in a great measure to set this subject in its proper light.

Much difference of opinion prevails as to the period of their application.

Not long since, a public teacher gave this broad rule, viz:—"When the scalp of the child is corrugated, the vagina hot and dry, the forceps are strongly indicated, and no time should be lost in resorting to their use—no matter how long or short a time may have intervened." The impropriety of such a course is obvious, and wants no comment. There is no rule which will not have an exception,—but those laid down by our author accord fully with the most safe and practical plan—drawn as they are from the best of all sources,—the condition of the patients and the result of statistics.

On retention of the placenta the author has made some valuable observations. The rules laid down may well be considered as giving the best exposition of the treatment to be pursued in such cases;—cases to the advanced practitioner of no small moment, and to the young of perplexity and doubt.

The chapter on "Puerperal Fever," like the foregoing, is full of statistics, and at a glance sets forth the views entertained by all the celebrated writers up to the present period. To the advanced practitioner it will be found full of interest, and as setting forth the views of authors as to its pathology, invaluable. The young practitioner will find in it the cream of what before he would have been obliged to search volumes to obtain.

We regret the want of sufficient room for a full synopsis of this chapter, but our limits compel us to close; we cannot, however, but acknowledge the satisfaction we have felt in the perusal of this work, and sincerely wish for it a wide circulation—feeling the full conviction of this truth, that books of such a character are rare, and deserve a place in the library of every member of the profession.

S. S. P.

ART. XV.—*The Practice of Surgery.* By JAMES MILLER, JR., R.S.E., Prof. of Surgery in the University of Edinburgh, etc. Phil., Lea & Blanchard. 8vo., pp. 496 : 1846.

WE lately had occasion to notice the very able work of Prof. Miller, entitled "Principles of Surgery," and now we are presented with another equally interesting volume exhibiting the application of these principles to the details of injury and disease. Both together form a very useful and complete Text-Book of Surgery. The work, moreover, is unedited, and will thus gratify the taste of those readers who have no delight in those medico-literary plastic operations, for which, we are told, Americans are somewhat celebrated. The work is got up in the usual elegant style of the publishing house whence it emanates, and will commend itself to both students and practitioners as containing a very satisfactory resumé of the resources of the Surgical Art at the present day.

ART. XVI.—*Elements of Materia Medica and Therapeutics.* By EDWARD BALLARD, M.D., London, and A. B. GARROD, M.D. With additions and alterations. By R. E. GRIFFITH, M.D. Phil : Hogan & Thompson, 8vo. pp. 516, 1846.

THIS is a respectable compilation, strictly elementary in its character; being confined to the most important facts connected with the physical properties, preparation, chemical composition, chemical relations, operation, and uses of the different articles of the Materia Medica. The general principles of Therapeutics, with those of Chemistry and Natural History, in their application to Materia Medica, have been included in sepa-

rate introductions, in order to avoid repetition and to exhibit a connected idea of each. The editor, Dr. Griffith, in introducing the work to the profession of this country, speaks of the want of a Compendious Treatise on the Materia Medica to serve as a text-book for students, and at the same time remarks that the present publication "contains a larger mass of information condensed in a smaller compass, than any work in the English language." Now, we are inclined to doubt whether either of these positions can be maintained. Certainly, the "Conspectus of Thompson" is more compendious, and contains in a much smaller compass an equal amount of matter; and the same, perhaps, is true of Bell's Dictionary of Materia Medica. We do not see the necessity of a table of "Contents" of thirty-six pages, while there is a copious Index besides. The work would be much improved if this part were omitted, and the uses of medicines dwelt on at greater length. An account of the mineral waters of the United States would also be a useful addition. The additions of the editor are, however, extensive and judicious; and altogether the work is calculated to be a useful one as a text-book for students.

ART. XVII.—*Monograph on Strabismus, with Cuts.* By FRANK H. HAMLITON, Professor of Surgery in Geneva Medical College: Buffalo, 1845. 12mo. pp. 69.

THIS is a highly meritorious little manual, and comprises, in small space, all that is actually known on the subject of Strabismus. The author is one of those straight-forward writers and talkers who go directly to the point, instead of making gyrations round it ad infinitum. Hence, the very small compass into which he has compressed so much important matter. We can safely recommend this manual as a safe and useful guide in everything relating to strabismus, including etiology, pathology, anatomy, ordinary treatment, and surgical operation. It derives no small part of its value from the large number of illustrative cases which are scattered through its pages. We hope it will be widely circulated.

ART. XVIII.—*Lectures on the Nature and Treatment of Deformities, &c.* By R. W. TAMPLIN, F.R. C.S.E. With numerous illustrations. Philadelphia: Barrington & Haswell, 1846, 8vo. pp. 216.

THESE lectures were originally published in the London Medical Gazette, and were universally received with much favor. Deformities of the foot and the knee-joint are treated of at length; the causes and treatment being pointed out with great minuteness and judgment. Distortions of the spine, wry-neck, contraction of the lower jaw, of the shoulder-joint, arm, fore-arm, wrist and fingers, &c., all pass under review, thus forming a complete Manual on the subject of Deformities. The work scarcely admits of analysis; we can therefore only recommend it as one of the most useful of the kind hitherto published.

ART. XIX.—*A Clinical Introduction to the Practice of Auscultation and other modes of Physical Diagnosis, intended to simplify the study of the Diseases of the Lungs and Heart.* By H. M. HUGHES, M.D., etc. Philadelphia: Lea & Blanchard. 12mo., pp. 270.

The Diagnosis, Pathology, and Treatment of the Diseases of the Chest. By W. W. GERHARD, M.D., Lecturer on Clinical Medicine to the University of Pennsylvania, etc. 2d Edition, Revised and Enlarged. Philadelphia: Barrington & Haswell. 8vo., pp. 288. 1846.

The Young Stethoscopist, or the Student's Aid to Auscultation. By H. J. BOWDITCH, M.D. New York: J. & H. G. Langley. Boston: Wm. D. Ticknor & Co. 1846. 12mo., pp. 278.

AMONG the successful cultivators of Physical Diagnosis in this country, Dr. Gerhard occupies a very prominent place. In 1835, he published a short treatise on the Diagnosis of Thoracic Diseases, which embodied what was most important in reference to the physical and general signs, without reference to the treatment; and in 1840, he gave to the profession a Series of Lectures in the Medical Examiner, which formed the substance of the first edition of the present work.

We now have the whole of these previous publications arranged, corrected, and expanded in the present volume, so as to form a complete treatise on the diagnosis and treatment of thoracic diseases. We value the work more highly on account of its combining the general symptoms and treatment with the physical signs, which is not done by most writers on this subject.

We fear that sufficient attention is not paid by the profession generally, and especially by teachers in our different medical schools, to diseases of the chest,—a class of diseases that far exceeds all others in frequency and fatality, and which requires, perhaps, a greater amount of knowledge and skill for their successful management than any other. According to the "*Abstract of Returns of Causes of Deaths*" in Massachusetts, we find that in 1843 there were 2,047 deaths from diseases of the "Respiratory Organs" exclusive of whooping-cough and influenza, out of a total of 7,177; in 1844, 2,036 (total 7,076); in 1845, 2,542 deaths out of a total of 8,070 deaths from all other diseases; being a ratio of over one third of the whole number. In this city the mortality from the same class of diseases is still greater. During the last year our deaths from "consumption" (phthisis pulmonalis) alone amounted to 1,659. Now in some of our medical schools there are no lectures given on physical diagnosis,—auscultation and percussion are passed over as of very little consequence; merely mentioned perhaps incidentally in connection with pneumonia, while the diseases of the chest themselves are despatched in the course of two or three lectures of one hour each. We have known a professor of the *practice of physic* in a medical college devote twelve continuous lectures to the discussion of a new theory on an abstruse subject of physiology, in a manner entirely beyond the comprehension of his class, and without advancing a single useful idea or practical precept that could ever be applied in the diagnosis or treatment of disease, while he devoted less than six hours to the elucidation of that class of diseases, which, as we have seen, sweeps off one third of the whole human family. Where is the utility, in this part of our country at least, in discussing the nature, symptoms, and treatment of

Plague and *Yellow Fever*, of the *Greek Leprosy* or the *Barbadoes Leg*, to the neglect of those diseases which the practitioner is liable to meet with every day of his life? We believe, moreover, that it is mainly owing to this neglect, and the consequent ignorance of thoracic diseases, on the part of medical men, that they prove so extensively fatal.

No one can believe that, under judicious treatment, such a vast mortality would occur. Many of the older class of physicians undervalue physical diagnosis, because they have paid no attention to it; and some of the younger class wholly neglect it, because, they say, it requires too much study and practice to make it available. In some parts of our country, physicians are satisfied, in a case of pneumonia, for example, with the general diagnosis of "*lung fever*,"—a term just as appropriate as would be *brain fever*, to indicate inflammation of the brain; *bowel fever*, to indicate enteritis; and *heart fever*, carditis.

There are undoubtedly difficulties in learning the physical signs of thoracic diseases, and so there are difficulties in the acquisition of any kind of knowledge—and often that which is the most difficult is the most useful: and so it is here. Any one can ascertain alterations of form in the physical structure of organs, but all have not the same power of judging of sounds produced in the interior of organs by the motion of solids, or of elastic or non-elastic fluids; or of the resonance produced by tapping the surface with the finger. Here we have phenomena somewhat complicated in their nature, and consequently difficult. Proper manipulation requires practice—the ear must be trained—we have to learn, not only the nature of the different sounds, but also what those sounds indicate—what the condition of organs is which gives rise to them.

This, as Dr. Gerhard remarks, requires time, attention, and organs of hearing which are not physically incapable of discriminating between sounds which at first may seem nearly similar. The first difficulty is surmounted: there still remains the other, which requires a knowledge of many circumstances which are connected with the pathology of the disease. These are those which relate to the physical condition of the viscera, or the pathological anatomy of the parts, and to the functional action of the organs, which is necessary for the production of most of the sounds. Hence the knowledge of the physical means of exploration requires no little time and attention, and cannot be learned in a careless or hasty manner.

"There is, therefore," says Dr. G., "this impediment to the study of the diseases of the chest, and of physical exploration, that the act itself is a matter of difficulty, and requires more labor than is willingly bestowed on it. The whole process of investigation requires this attention. Even the manual or mechanical precautions necessary to be taken, are not to be learned at the first trial, but require time in the performance of this act, like that of every other; for the ear and hand are not at first capable of the delicate and varied actions necessary for the satisfactory exploration of the thorax. But, although the apparently complex nature of physical exploration may deter many from attempting its study, the difficulties which at first present themselves are readily removed by patient and laborious attention, and are more than compensated from the certainty which results from a mode of investigation based upon fixed physical laws.

"Every step in the acquisition of this knowledge is appreciable; and in proportion as it becomes more accurate, the diagnosis of disease assumes a new character, which is never acquired when confined to the functional symptoms. This is true even at present, when the comparison of local and general symptoms to which I have just alluded has rendered the latter much more clear, and their value better defined. The physical signs have served as a point of departure, with which to compare the rational symptoms, and have thus rendered the latter more easy of recognition, and more positive in their relations with the internal lesions of the thorax. This is so obviously the case, that a glance at the works of any of the later writers upon the subject is sufficient to show that the rational signs have become of more practical service for the study of diagnosis than they have ever been before, and that many of these symptoms have been investigated with a care which was never before bestowed upon them. Some symptoms, it is true, have fallen into comparative neglect, because they are no longer of decided utility in diagnosis; but the greater number have derived new value from their connexion with the physical signs."

The method pursued by Dr. Gerhard in treating of thoracic diseases is explained in the following extract:—

"As the diagnostic characters of the diseases of the chest are composed of several distinct sets of symptoms, they may be studied after each class of them has been separately learned, or the diseases themselves may be first observed, and the symptoms analyzed as they present themselves at the bed-side.

"The former method is naturally adopted in a systematic treatise or course of lectures; the latter belongs more properly to clinical or demonstrative medicine,—a subject of which I treat more at large in another place. As the object of the present treatise is not only to explain the mode of application of these methods of investigation to the study of disease, but to teach the methods themselves, it resolves itself naturally into two parts. The first part will contain the explanation of the physical signs, and teach the method of acquiring them, which I have found most convenient for the pupil. In connexion with this portion of the subject I shall treat of those functional symptoms which are immediately connected with the organs of the thorax, and are therefore most conveniently learned at an early part of the study. The second part will be devoted to the examination of individual diseases in connexion with their symptoms and treatment. The series will thus comprise, as nearly as my time will permit, a complete history of the modes of exploration used in the diseases of the thorax, as well as an account of those diseases themselves."

We need hardly add that we regard the work of Dr. Gerhard as among the very best that treat of thoracic diseases that have yet been published. We trust it will find a place in the library of every practising physician.

The work of Dr. Hughes is an excellent one for young beginners in physical diagnosis. It is, for the most part, simple in language, clear in illustration, and adapted to the comprehension of the merest tyro in the art of auscultation. The author takes up in detail the usual subjects discussed in treatises of this kind, which he dwells on at sufficient length to give the reader a proper understanding of the different topics. His object seems to be, not so much to treat of the diagnosis of thoracic dis-

eases, as to point out the physical signs of those diseases, and to explain the causes of those signs—to instruct the beginner in the mode by which he is to obtain a knowledge of them, as well as to direct him how to instruct them. This is done by statements and directions so distinct, and explanations so simple, as to make the work a favorite to all who wish to see a matter-of-fact subject treated as it should be—divested of all mystery.

The work of Dr. Bowditch is a clear, concise and comprehensive handbook on physical diagnosis. It can by no means supersede Williams, Stokes, and Gerhard, as a complete and systematic treatise, but as an introduction to the study of these more elaborate works—a pocket-companion for the student—a summary of the essentials of auscultation—we believe it will be found to have no superior. We like it for the plain common-sense view which the writer takes of the subject, and especially for not underrating the importance of the rational signs, which is too often done by authors on physical diagnosis. We recommend every student of medicine to supply himself with a copy of this work for frequent study and reference. We shall give an extended account of the contents of this treatise in a future number.

ART. XX.—*The Natural History and Diseases of the Human Teeth.* By JOSEPH FOX, M.R.C.S.L., &c. First American edition. Remodelled and edited by CHAPIN A. HARRIS, M.D.D.D.S., &c. Illustrated with 30 plates. Philadelphia: Barrington & Haswell, 8vo. pp. 424. 1846.

IT is very gratifying to notice the great advancement of Dental Surgery in this country within the last few years. It has not only kept pace with the other departments of medicine, but has even outstripped them in some respects. This has been owing to combined action and effort on the part of those engaged in this highly honorable and useful speciality, and furnishes a valuable example for the imitation of those engaged in general practice.

The formation of "The American Society of Dental Surgeons"—the publication of the "American Journal and Library of Dental Science," and the establishment of the "Baltimore College of Dental Surgery" (in which Drs. Harris, Bond, and Handy, are professors), have tended to rescue the Dental Art from the inferior position which it formerly occupied, and elevate it to an equal rank with the other branches of medical and surgical science. The dentist is a practitioner of the healing art, and if well educated, deserves to rank, and does rank with the best in our profession. Although, as a general rule, we do not hold to specialities, yet we consider the Dental Art as an exception, especially when practised in our large cities; in the country, every physician must necessarily understand and practise dentistry, more or less; and we may remark, that there is far too little attention paid to this branch of surgery in our medical schools, and by private instructors. In consequence of this neglect, operations on the teeth, including extracting, are generally performed in the most bungling and slovenly manner, as if it were a

matter of very little consequence how the teeth are managed. Again, it is important that the professed dentist should have a complete medical education; if he has not, he cannot expect to rank on an equal footing with other members of the profession. The teeth sustain relations to other parts of the system, and its different functions, of an extensive and important character, involving the absolute necessity of understanding the principles of physiology and pathology, in order to treat their diseases successfully; and he who merely pursues the dental calling as a mechanical art, as is often done, must fail in attaining that success and eminence to which every one should aspire.

The work of Mr. Fox, which first appeared in 1806, has always occupied a high place in the literature of this department of medicine. It has passed through several editions, and is quoted as standard authority by all writers on dentistry. The author was justly distinguished as a Lecturer on Dental Surgery in Guy's Hospital, and was no less distinguished in his life-time as a practitioner. The editor has made extensive additions, adapting the work to the present state of dental practice. It is also beautifully illustrated with plates, and as a work of art, will favorably compare with the handsomest works issued from the American press.

ART. XXI. — *Elements of Materia Medica and Therapeutics.* By JOHN P. HARRISON, M.D., Professor of Materia Medica and Therapeutics in the Medical College of Ohio. 2 vols., 8vo. Philadelphia, 1845.

WE barely announced the appearance of this work on the publication of the first volume, and expressed a favorable opinion as to its general merits. On a more minute examination, the opinion then formed has been confirmed; although, in some respects, the work may be improved, and doubtless will be, on passing to a second edition. The first volume treats of the modus operandi of medicines; the effects of remedies; classification of medicines; the circumstances which modify therapeutical indications; the theory and art of prescribing; formulæ; doses of medicines; synopsis of incompatible substances; poisons and their antidotes; patent medicines and nostrums; indications of cure; alterants (including mercury, iodine, arsenic, nitric acid, guaiac and sarsaparilla) and evacuants. The second volume treats of blood-letting; emetics; cathartics; enemata; incitants, or excitants; stimulants; antispasmodics; tonics; astringents; restoration of the secretions; diaphoretics; diuretics and antilithics; expectorants; emmenagogues; anthelmintics; anodyne or narcotic indication, and revulsive indication.

The remarks of Professor Harrison on blood-letting occupy 200 pages, and strike us as eminently judicious and practical. He very justly insists on the absolute necessity for copious and repeated blood-letting in pulmonary inflammation, especially in its early stages, when the crepitant rhonchus is present. In its first stage the dangers incident to pneumonia are dependent upon the engorged and suffocated state of the circulation in the lungs. The arterialization of the blood is interfered with,

and owing to the obstruction in the lungs, the right side of the heart is unduly charged with blood and subjected to the stimulus of over-distension, whilst the left side is not properly supplied with the circulating fluid. Hence, in intense forms of attack, a weak oppressed pulse is very apt to be present, misleading the physician, unless he is aware of the cause to which this indirect debility is owing.

We have repeatedly seen the lancet withheld from an apprehension of debility in the first stage of the disease, thus allowing it to run on, unimpeded, to a fatal termination; when there could be no question whatever, that the apparent prostration was owing to the engorgement of the lungs, which would have been promptly relieved by removing the local congestion. We agree fully, therefore, with Dr. Harrison, that in these violent cases, attended with rusty or bloody expectoration, blood must be freely abstracted until the dyspnœa and pain are mitigated, and the engorgement relieved. In this manner only can the pulmonary circulation be speedily freed from embarrassment, and the right auricle of the heart receive its due supply of arterialized blood; and especially is a decided use of the lancet demanded in pleuro-pneumonia.

Our limits will not allow an analysis of the work at present; we can only, therefore, cordially recommend it, as containing a great amount of useful, practical matter. The author is well known as one of our best teachers and most eloquent writers.

Art. XXII.—*Elements of Surgery.* By Robert Liston. Fourth American Edition. With copious notes and additions, by S. D. Gross, M.D., Professor of Surgery in the Medical Institute of Louisville, etc. With numerous engravings. Philadelphia: Barrington and Haswell. 8vo. pp. 664. 1846.

The Elements of Surgery by Mr. Liston is too well known to need praise at our hands. The fact that it has passed through three American editions within a short time, is sufficient evidence of the estimation in which it is held by the profession. We are happy to find that the able editor has preserved the arrangement of the author, and taken no liberties with the text, but added new matter, which is included in brackets. As a comprehensive compendium of Surgery, we believe the work will rank with the very best in the English language, if indeed it does not occupy the foremost place. It is, therefore, invaluable to the student as a text-book, as it is to the practitioner, as a gde in everything relating to th e surgical art.

PART THIRD.

1.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

1. "*Concours for the Professorship of Anatomy in the Faculty of Medicine of Paris.*—The concours for the appointment of the successor of Breschet to the chair of anatomy in the School of Medicine and Surgery of Paris is now in progress. The exercises which the candidates have to undergo are five in number:—1. A written essay, the subject being the same for all the candidates, which must be composed in five hours, without any extraneous aid whatever, and subsequently read in public. 2. An oral lecture, one hour long, on an appointed subject, after twenty-four hours' preparation. 3. An oral lecture on an appointed subject, after three hours' preparation, without any extraneous aid. 4. An anatomical dissection or preparation, to be made without assistance, and a public lecture thereon. 5. A thesis to be supported by argument. The subject of all these exercises is appointed by lot. The credit given to each candidate for what is termed "*anterior titles*"—that is to say, his previous scientific and practical labors, is not determined until the foregoing exercises have been completed.

"The subject of the written essay on the present occasion was the *Skin.*

"The following is a list of the subjects of each lecture, with the name of the candidates to whom they were respectively allotted:—M. Dumeril—the secreting organs in general; the liver. M. Chaissagnac—the organ of hearing; the liver. M. Bourgery—the eye; articulation of the head with the spine. M. Despretz—the digestive organs in general; articulation of the head with the spine. M. Gosselin—the cerebro-spinal nervous centres; testicle, vas deferens, and vesicula seminalis. M. Giraldes—comparison of the upper and the lower extremity; the bladder. M. Beclard—the hand; the appendages of the uterus. M. Denonvilliers—the organs of sense compared with each other; the appendages of the uterus; M. Sanson—the respiratory apparatus; the appendages of the uterus.

"The subjects of the theses are:—M. Gosselin—The ganglionary nervous system; its connections with the cerebro-spinal system of nerves. M. Dumeril—the evolution of the fœtus. M. Denonvilliers—comparison of the two muscular systems. M. Sanson—the articulations in general. M. Giraldes—How far comparative anatomy is useful in the study of human anatomy. M. Chaissagnac—the mucous membranes. M. Despretz—on the value of microscopic researches in anatomy. M. Beclard—the cartilaginous system. M. Bourgery—the appendages of the fœtus and their development.—[M. Denonvilliers was the successful candidate.—Ed.]

"*Concours for the Chair of External Pathology (Surgery) at Montpellier.*—The following were the exercises performed by the candidates. The subject of the written essay was, 'Pass in review the principal divisions of external pathology, so as to show theoretically the relations between medicine and surgery.'

"In a lecture, after twenty-four hours' preparation, M. Guissac considered *Cysts in general;* M. Boyer, *Scrofula in a surgical point of view;* and M. Alquie, *Tumors in general.*

"M. Guissac's thesis was, *On the improvements in surgery due to the progress of pathological anatomy.* M. Boyer's—*What is due to nature and what to art in the cure of surgical diseases?* M. Alquie's—*Appreciate the labors of the Academy of Surgery.*

"All the candidates had to deliver an extemporaneous lecture on the same subject, viz.—*On foreign bodies in the air-passages.*

"M. Boyer was unanimously elected Professor of Surgery, and the jury passed a warm eulogium in the most complimentary terms on M. Alquie."—*Gazette Med. de Paris.*

2. "*Disinfection of Anatomical Subjects.*—The problem of preserving subjects for anatomical purposes seems to be at length solved. We have recently minutely examined the dissecting-rooms of the Practical School of the Faculty of Medicine, and were astonished at the perfect state of preservation of bodies which had been allotted to the students several weeks previously. We intend shortly to devote an article to a detailed account of the processes employed. For the present we shall content ourselves with stating, that by injecting the arteries with an aqueous solution of sulphate of soda at eighteen degrees, putrefaction is prevented for several weeks. Lotions with a solution of chloride of zinc ensure the ulterior preservation; the organs retain their shape and color; the instruments sustain no damage; and no smell is perceived even within a few inches of the body. This important result must doubtless exert the most salutary influence on the health of the pupils, and also materially assist the progress of anatomical studies.—*Ib.*

3. "*Adventitious Muscle.*—Dr. Miller, of Glasgow, states that he has 'detected an adventitious muscle deserving the notice of the profession as lying in the space recommended by the late Sir Astley Cooper for tying the subclavian artery. Arising fleshy, and about half an inch in breadth, from the middle and superior edge of the clavicle, close to the outer edge and origin of the sterno-cleido mastoideus, and its fibres were directed upwards and outwards, crossing the omohyoid, to be inserted in the upper border of the trapezius, two inches above the clavicle. I imagined at first it might have been a prolongation of the trapezius, but, on separating the cellular tissue, there was a distinct space of more than one inch at its origin.'"—*Med. Times*, Jan. 24, 1846.

MEDICAL PATHOLOGY AND PRACTICAL MEDICINE.

4. "*A simple Introduction to the Clinical Chemistry of the Urine.*—Under this title, a communication from an anonymous correspondent appears in a late number of the *Medical Gazette.* The directions which it gives for this investigation are sufficient for all practical purposes. Its perusal, in an abbreviated form, will repay the reader.

"'The urine should, for all purposes of examination, be collected clear from admixture of dust or other impurities. The morning's urine is generally employed, as it is difficult to obtain that passed during the whole twenty-four hours; but the quantity passed during this space of time should be noted; and, also, it should be ascertained whether this is greater or less than the quantity usually passed by the patient during that space of time. The note should also state what urine was examined, whether the morning's, or that passed in the course of the day.

"'The characters of the fluid should then be observed—best in the glass in which the specific gravity is presently to be taken, its reaction on test-paper, and any sediment that it may have deposited. The latter should be examined under the microscope. The acid and alkaline reaction is shown by blue and red litmus-paper.

"'If the urine is acid, turbid, with a red deposit staining the sides of the vessel, we know at once that the urates are in excess; if alkaline, or even acid, of a pale color, slightly turbid, with a light cloud floating in it, and an iridescent pellicle on the top, we presume the phosphates to be in excess, and this the more if the urine is highly offensive to the smell, and full of mucous strings. A clear pale urine may be found in connexion with hysteria, with Bright's disease of the kidney, or with diabetes. A smoky color is very indicative of

Bright's disease [a yellowish tint on the sides of the vessel, or communicated to linen, indicates the presence of bile], and a greenish tint should remind us to look for crystals of oxalate of lime.

" ' The specific gravity is best estimated by means of a common hydrometer, made for the purpose, contained in a strong glass tube, in which it may be floated when required. It should be allowed to sink gently down to its level, as all the fluid that collects upon it higher up tends to weigh it down, and makes the urine seem of lighter specific gravity than it really is. High specific gravity, that is to say, all above 1025, may denote diabetes, or may result from the patient, at the time, employing diuretic salts. Low specific gravity, or below 1014, may be connected with granular degeneration of the kidney. The specific gravity, in connexion with what has been already noted concerning the color and reaction of the fluid, is to guide us in the subsequent application of our tests.

" ' Heat and nitric acid are, for most purposes, enough ; their effects are best witnessed in common test tubes, into which the urine may readily be poured, even from a large vessel, by using one tube as the guide, down the side of which the fluid may run into the other.

" ' Urine of a low specific gravity had better be heated, and if a precipitate forms, a few drops of nitric acid should be added. If the precipitate re-dissolves, it is to be considered indicative of the presence of the phosphates in excess : if it do not dissolve, but be rather increased by the addition of the acid, it is albumen. It is to be remembered that a precipitation of the phosphates by heat may take place as well in acid as in alkaline urine.

" ' To urine of a higher specific gravity, nitric acid may be added at once. Every precipitate that forms may be uric acid or albumen. To determine this, the fluid should be heated, when the precipitated uric acid will be re-dissolved, the albumen will remain coagulated. A partial or entire solution of the precipitate, by long continued heat, may denote so interesting a form of disease, that the beginner would do well to call in the aid of a more experienced chemist under such circumstances. The results thus obtained should not be lost ; the tubes must be set by for a day, and then it should be noted, by the aid of a common pocket measure, how high the precipitate stands in the fluid, occupying, for example, half a third, or an eighth part, as the case may be. The quantity of little crystals of uric acid that have darted over the inside of the tube should also, at the same time, be looked to.

" ' If precipitate forms, a reference to the specific gravity must tell us whether we may presume that we are dealing with healthy urine. If the specific gravity be high, and the re-agents have produced only slight effects, the nature of the case may tell us whether it be worth while to look for sugar in the urine. This is most satisfactorily effected by means of fermentation : about two drachms of the urine being introduced, with a little yeast, into a phial with a perforated cork, through which the longer leg of a bent tube passes, and the whole inverted in a cup of cold water, where another phial, filled with water and inverted, is to receive the short leg of the tube. At a temperature above 60°, any sugar that may be present will begin to be decomposed, and carbonic acid will collect and remain for some time unabsorbed in the other phial. If no gas collects, there is no sugar in the urine ; but there may have been albumen which we have failed to detect from not adding enough acid, for a little nitric acid only renders the albumen uncoagulable ; forms, in fact, a soluble nitrate, which is not precipitated by heat. A few additional drops of nitric acid will prevent any error from this cause, by at once precipitating the albumen.

" ' It remains now to consider those cases where the urine evidently contains some soluble matter in excess, which, however, is neither albumen nor uric acid, and to notice a few appearances which are sometimes perplexing to a beginner. A free effervescence may arise either from the presence of the carbonate of an alkali, or the decomposition of urea, or that of uric acid. The first case might be solved by looking to see what the patient is taking, all neutral salts, with vegetable acids, being converted into carbonates of that base during their passage into the urine. The second is best determined by setting aside two drachms of urine in a saucer, with about a quarter of its volume of

nitric acid, of course, without having applied heat, when the appearance of crystal denotes an excess of urea. The third is best solved by adding a few drops of any acid to the urine in a tube, and observe, as before recommended, the number of crystals that have formed by the ensuing day.

" ' The flaky precipitates, recognized to be albumen, may be seen sometimes yellow, sometimes red or pink, or covered with air bubbles. For the present, it is enough to state, that these appearances result from the decomposition of the uric acid by the nitric acid, which deepens the color of the urine, or of the urea, or any substances, as above, which effervesce on the addition of this reagent; or, lastly, the yellow color may arise from there being nothing present to prevent the nitric acid producing this its ordinary effect upon animal substances.

" ' The sum of these remarks is this. That the urine deviates from the condition of health most commonly in a few particular ways, whether by an excess or deficiency of its normal constituents, or by the presence of matters which should not exist at all in the urine.'

" The chemical study of the morbid conditions of the urine is thus shown not to be so difficult as many have believed it to be. Without attention to them, our therapeutics are a dead letter, and here are the means of preventing such a result: they are sufficiently simple and ready of application."—*London Lancet, April*, 1846.

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5. " *On the Treatment in cases of Urinary Deposits.*—In connexion with the above clinical investigation of the urine, we may refer, with advantage, to the views of Dr. Aldridge on the treatment of some of its morbid conditions. We find them in the *Dublin Hospital Gazette.*

" ' *Treatment of lithic acid deposits.*—The deposits are either crystalline or amorphous. When the urine for any length of time continues to deposit, after each emission, the rhombic prisms of lithic or uric acid, it is desirable to exhibit either bicarbonate of soda or potash, in doses of ten grains or a scruple, dissolved in half a pint of water three times a day, so as to render the urine neutral or alkaline; but this effect being obtained, the practitioner ought to direct his efforts to subdue the gouty condition which is the cause of the symptom. If the urine be albuminous or sanguinolent, and there is much pain in the loins, it shows the attack to be of an inflammatory character, and to require a treatment locally antiphlogistic, otherwise recourse may be had to colchicum.

" ' If the lithic acid be amorphous, its precipitation may depend either upon an excessive secretion of the solid constituents of the urine, or upon a deficiency in the secretion of water. In the former case, the specific gravity of the urine becomes normally increased in proportion to its quantity. The treatment should be directed to a rheumatic state of system; at the same time, it is desirable to hold the excessive lithates in solution by means of alkalies. Iodide of potassium is a medicine that fulfils both indications, and given in doses of five or ten grains, three times a day, will be found serviceable.

" ' When the amorphous lithates become deposited from a deficiency of water, the quantity of urine will be ascertained, upon inquiry, to be less than usual. Sometimes, however, the patient is deceived as to this point by the concentrated and stimulating secretion, demanding frequent evacuation: under all circumstances, it is most desirable for diagnosis that the daily discharge of urine should be measured. Diminution of the watery part of the urine may be produced by irritation of the kidneys, either idiopathic or symptomatic; or it may be the consequence of a vicarious watery secretion from some other organ. When the deposited lithates are of a brick-red color, the scanty secretion of water which produces their subsidence is the effect of the first of these causes; in that case, a fever, either essential or symptomatic, exists: and the remedies calculated to remove the fever are those fitted to increase the urinary secretion, and diminish the lithic deposit. If the deposited lithates be pale or buff-colored, the chances are, that they are caused by a nervous diminution of the watery element, connected with that weakened action of the ganglionic nervous system to which the name of dyspepsia is given. If such be the case, the internal exhibition of a scruple of alum, in half a pint of water, three times a day, will

soon remove the tendency to lithic acid deposit. A pink color of the sediment is usually found in connexion with an imperfect discharge of the biliary functions.

" ' *Treatment of phosphatic deposits.*—These deposits, when principally crystalline, generally depend upon the urine being deficient in acidity: in that case, the treatment will be described under the head of alkaline urine. Sometimes, when the bladder has been long diseased, a copious deposit of amorphous phosphates subsides from the urine; it is always under such circumstances accompanied by pus.

" ' *Treatment indicated by weakly acid, neutral, or alkaline urine.*—If the urine be neutral, or weakly acid, from a vice of secretion, it usually shows that the kidneys are inflamed. In acute nephritis, the employment of general and local depletion, as well as the exhibition of emollients and contra-stimulants, must be regulated by the severity of the disease, and the state of the constitution, according to the ordinary principles by which inflammations are combated. In chronic nephritis, great benefit is derived from local depletion and counter-irritation, especially from the establishment of setons in the neighborhood of the affected glands. In the renal complication of typhus, large blisters to the loins [?] and the internal administration of wine are usually indicated; small doses of oil of turpentine will, in these cases, often increase the quantity and restore the acidity of the urine.

" ' *Treatment of the oxalate of lime deposits.*—Although there can be little doubt that oxalic acid is generated in the urine by the putrefactive decomposition, and often occurs subsequent to secretion, in a manner totally independent of disease, yet it is also certain that this decomposition frequently results from an essential vice of secretion. The morbid conditions which give rise to this change are not yet known; but it is well ascertained, that in every instance of the kind there is frequent desire to pass water, pain in passing it, and that the secretion is commonly loaded with epithelium. These phenomena proclaim the existence of irritation of the mucous membrane. Sometimes the crystals of oxalate of lime, like those of uric acid, cohere in the calyces and infundibula, forming calculi, which produce paroxysms of nephritic colic, by their descent into the bladder. In such cases, inflammation of the lining membrane may be mechanically produced; but it is doubtful whether the symptoms of mucous irritation, which usually accompany the oxalate of lime deposit, are due to the irritating contact of the sharp crystals. Whatever is the cause of the mucous irritation, it constitutes the lesion which in oxalate of lime diathesis you are especially called on to remove; and its successful treatment requires no little delicacy in the application of therapeutical agents. Unlike acute mucous inflammation, depletion and emollients will act in this irritation injuriously, if employed in the first instance; you must have recourse to tonics immediately, such as the mineral acids, vegetable bitter astringents, &c.; and having employed these means for some time, you will then find the greatest benefit from alkalies largely diluted. It will be often necessary to alternate these methods of treatment for a considerable period, but you will generally find that ultimate benefit will be derived from steady persistence in their use.' "—*London Lancet.*

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6. " *Thoracic Percussion.*—M. Lanza, professor of clinical medicine at Naples, lately read to the Scientific Congress a paper on Thoracic Percussion, in which he endeavored to determine the normal sounds produced by percussion in the human chest, more exactly than had been hitherto attempted. The results at which he arrived are, that the sounds vary, in the normal state, according to the constitution of the individual, and more especially according to the natural tone of their voice, which has an intimate connection with the state of the thoracic organs. Thus, for instance, in three healthy individuals, of whom the one has a *tenor* voice, the other a *bass*, and the third a *baritone*, it may be certainly assumed that percussion will yield a different result in each. In the first, the sound will be similar to that produced in striking a perfectly empty cask; in the second, the sound will be more masked, as if striking a cask filled with raw silk or cotton; in the third, the sound will be a mean between the two former, and the more his voice approaches to the acute tone, percussion will bring out a

sound, at the summit of the chest, having a character approaching to that of the tenor. If, on the other hand, the voice has an inclination towards the bass, then the base of the thorax will yield the loudest sound on percussion. So that an individual being given, M. Lanza, without hearing him either speak or sing, can, by the sound elicited by percussion, predict the tone, quality and extent of his voice. M. Lanza has made an immense number of experiments on this interesting question, the clinical application of which is easily foreseen; for if it be true that the normal sound of the chest varies according to the original form of the tissues, that is to say, according to the constitution, then the anormal sounds elicited by percussion must, in order to appreciate differences, be judged of relatively to the *type* of the individual. From all this it follows, that there is at least reason to examine anew the presently received opinions regarding percussion, in the study of diseases of the chest."—*Annales de Thérapeutique*, December, 1845.

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7. "*Ovarian Dropsy—Spontaneous Cure.*—A woman, aged 28, had suffered from ovarian dropsy of the right side for two years. The tumor was large and increasing, when a small projection appeared in the region of the umbilicus, and at last burst. A torrent of water escaped through the opening, which continued fistulous. The discharge became puriform. The abdomen continued to decrease, the discharge to become less, till at length it altogether ceased, and the wound cicatrized. The woman was completely cured. At a later period, she married, became pregnant, and was delivered of a fine child. The abdomen continued large, and it soon became evident that the tumor had returned. It ran exactly the same course as the preceding, continuing to increase till an abscess formed at the umbilicus. The fluid was evacuated, and the sac continued to contract till there was no further secretion. The wound cicatrized, and the cure has continued complete. (*Medicinische Zeitung.*) Facts of this kind are rarely met with; but we cannot help regretting, that in our day surgeons see no other mode of curing these tumors than by extirpation."—*Ib.*

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8. "*Ammonia in Asthma.*—M. Guérard has employed ammonia in a hundred cases of asthma, and generally with a favorable result. In some, indeed, its effects were truly marvellous, the paroxysm disappearing as if by enchantment. We lately saw in his wards an old woman, aged 60, who, on admission, was literally suffocating, the respiration being nearly suspended, in consequence of extensive pulmonary emphysema; the paroxysms recurred with extreme violence; but these disappeared, after a single application of ammonia to the throat, a month ago. At the present time, this woman is tolerably well (*assez bien*), she sleeps quietly, her respiration is free, and her physiognomy tolerably calm; she merely complains of an uneasy feeling in the throat, caused by relaxation of the uvula, which is resting on the base of the tongue.

"M. G. applies the remedy in the following manner:—He dips a small pencil of charpie into pure liquid ammonia, and then instantaneously into a glass of water, after which he immediately passes it to the back of the throat, touching rapidly the velum, uvula, and œsophagus to a greater or less extent. He seldom has occasion to repeat the operation; when there is merely simple emphysema the improvement has been permanent. The pencil should neither be carried too deeply into the throat, nor allowed to remain too long in contact with the soft parts, more especially the posterior wall of the pharynx; the reaction resulting from such an application is, at times, followed by the most frightful symptoms, menacing instant death."

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9. "*Simple Method of causing abundant Perspiration. By Dr. Serre.*—This method of obtaining a copious sweat is very simple; and may be used in all circumstances, without the aid of extra coverings or hot drinks.

"Take a piece of burnt limestone, one-half larger than a man's fist; envelope it in some folds of linen, wrung out of water; and above this moist linen, roll a piece of dry linen. This packet must be so fixed, as to prevent it becoming at all loose.

"Place two packets, formed according to these directions, in bed, beside the patient, one at each side, in the neighborhood of the trunk. Close proximity is unobjectionable, in consequence of the dry cloth being the external layer. An abundant moist heat is speedily generated by the combination of the lime and water; which heat, diffusing itself through the bed, causes the patient to perspire profusely.

"The apparatus remains efficient for about two hours. Upon unrolling the parcels, it will be found that the lime has crumbled into powder."—*Bulletin de Thérapeutique* for December, 1845, as quoted in the *Encyclographie Médicale*, for January, 1846.

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10. "*Hereditary Brittleness of Bones. By Dr. Pauli.*—Many instances are recorded in which individuals have been affected with a sort of constitutional brittleness of the bones, and in whom fractures have happened with an unfortunate degree of facility; but we are not aware that this disposition has been observed in several members of the same family, so as to be in a manner hereditary. This has induced us to republish entire the following article, extracted from a work of Dr. Pauli, of Landau.

"'In the commune of Offenbach, there resides a family, all the members of which have already had fractures. Three of them have each had two fractures; another three, either of the arm or of the leg; one has even had so many as five fractures of one or the other extremity; and to produce these injuries no considerable violence was in general requisite. The father and grandfather before them had fractures of the limbs. This family, moreover, is a very healthy one; there does not appear to be any scrofulous or other taint in operation. It is remarkable that not one of them suffered a fracture before the age of eight, so that one might suppose that this particular fragility of the osseous matter was developed only towards the age of puberty. It would seem, however, that the condition of this fragility consists in some change of the chemical constituents of the bones in their relations to each other.

"'It has been frequently observed that men addicted to the use of brandy often experience fractures (in consequence of a degree of brittleness induced in the bones), which requires a long course of treatment to insure their consolidation. I met with this great fragility of the bones in a subject of this kind, a man fifty-four years of age, who hung himself three years ago at Gocklengen; the ribs, particularly, snapped like glass; and a very moderate force sufficed to fracture the long bones. But if fractures in these old drunkards are cured only very slowly, precisely the contrary is the case in the family above-mentioned; for in every instance which occurs in it, the fracture is very speedily consolidated, so that generally the callus is perfectly firm at the end of three weeks. I should add, too, that when the same bone has been broken a second time, the fracture has never occurred at the seat of the callus.'"—*Journ. de Chirurgie*, Jan., 1845, as quoted in *Dublin Hospital Gazette*, 1*st February*, 1846.

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11. "*Case of Disease of the Brain following Ligature of the Carotid Artery. By J. P. Vincent, Esq., Surgeon to St. Bartholomew's Hospital.*—James M., aged 48, in July, 1829, was admitted into St. Bartholomew's Hospital with an aneurismal tumor under the right ear. It had been forming eight months, and was about the size of a small orange. On July the 18th, the author tied the common carotid artery. In about an hour and a half after the operation, the patient was discovered to be slightly convulsed on the right side. He afterwards sunk into a state of stupor. He was bled to thirty ounces. After this he became more sensible; he had twitchings of the right side; he was again bled during this and the two succeeding days, and altogether lost eighty-four ounces; his left side became paralyzed; his urine and fæces passed off involuntarily; he swallowed with difficulty; and on the 24th he died.

"*Autopsy.*—The veins of the right side of the brain were not so filled as on the left. The substance of the brain on the right side was quite soft and cream-like. There was no deposition of blood in any part, but a little more serum in the ventricles than usual."—*Communicated to the Royal Medico-Chirurgical Society of London*, 13*th January*, 1846.

OBSTETRICS AND DISEASES OF FEMALES.

12. "*Case of Delivery during Sleep. By Dr. Schultze.*—Dr. Schultze was called on the 25th of May, 1844, to attend the wife of an artizan, who had reached the full term of her fourth pregnancy. He found her lying in a state of profound somnolency, so that it was quite impossible to rouse her, either by violently shaking her, or by applying to her nostrils the most powerful stimulants, such as ammonia and ether. On the third day of this unnatural sleep, the woman, without awakening, was delivered of a healthy, living, and well-formed male child. On visiting the female the following day, Dr. S. found that she had not long spontaneously awakened from her sleep: and as she had no recollection of her delivery, she was somewhat astonished to find the child had been born without her having been aware of it!"—*Annales d'Hygiène*, Jan., 1845, as quoted in *Northern Journal of Med.*, Nov., 1845.

13. "*Death of the Child from Injury dependent on forcible Expulsion. By Dr. Sewell.*—Mrs. B., aged 30, married, and pregnant with her first child, was seized during the night with labor-pains. Being a refugee from the late fire (in Quebec), she occupied part of a garret in which two or three other families and some young men were sleeping. Feeling a delicacy in being confined under such circumstances, she suppressed her cries till daylight, when she descended into a lower apartment, in which resided a woman who had been recently confined, to whom she detailed her feelings, requesting, at the same time, that some warm water might be given her to sit over, to relieve what she described as a great pressure at the lower part of the bowels. She had scarcely seated herself on the edge of a rather high chair, when a severe pain seized her, and before any assistance could be afforded (though one or two women were in the room), the child was forcibly expelled, and fell head foremost on the floor, being killed on the spot. I should have mentioned, that I was sent for immediately after Mrs. B. had descended into the lower chamber, but did not arrive till about twenty minutes after the delivery. The child, which was a remarkably fine one, was perfectly dead, and still attached by the cord to the placenta, which came away shortly after the infant. In the above case, not the slightest suspicion of criminality can attach to the mother; but suppose the delivery to have taken place in private, though there would be ground for a medico-legal investigation, still, with the fact brought before them by the coroner, that such cases as that now reported, do not unfrequently occur, a jury should be extremely cautious how they return a verdict of wilful murder against the unfortunate mother."—*British American Journal*, No. 5, vol. i., 1845.

SURGERY.

14. "*On the Advantages of Submucous Tenotomy for the Relief of Strabismus. By C. Brooke, M.B., Cantab., F.R.C.S.E.*—The author remarks that this operation does not, at the present day, prefer any claim to novelty, having been long since proposed and practised; but as the physiological reasons which appear to render this mode of operating preferable to any other, as being more likely to avoid the usual sources of failure, are very conclusive, and have not, as far as he is aware, been clearly pointed out, the subject may not, perhaps, be considered unworthy the attention of the Society.

"The occasional return of the strabismus as a consequence of the ordinary mode of operating by a free division of the conjunctiva, may be explained on the physiological principle, that whenever a superficial wound of which the edges are capable of being approximated, is allowed to heal by granulation, and to cicatrize, so strong is the tendency of nature to restore the continuity of the normal integument, that although a cicatrix of considerable width may at first appear, this will invariably be subsequently removed by interstitial absorption, and a linear cicatrix will alone remain. This principle is presumed to be appli-

cable to the eye. When the conjunctiva is freely divided, as well as the tendon itself, both will probably be reunited to the eye-ball at a point posterior to that from which they had been separated, and the intervening space will be filled up by granulation. But when the subsequent process of absorption takes place, the conjunctiva, and with it the tendon, will be more or less restored to their former position, and the strabismus will return.

"In all the cases in which submucous tenotomy has been performed, the result has been successful. The paper is concluded by a description of the mode of performing the operation.

"Dr. Gregory, to elicit discussion, drew attention to the protrusion of the eye-ball after this operation, occurring sometimes immediately, at others not till weeks after the proceeding.

"Mr. B. B. Cooper questioned whether the operation for strabismus was desirable or not. The deformity was most frequent in children, who, under constitutional treatment, usually recovered from it. He had performed the operation frequently, but usually some protrusion followed, and the symmetrical action of the eye was lost. Whether the operation was submucous or not, mattered little as to the result. He alluded to the case of a child eleven years of age, who had suffered first from strabismus, at the age of four years; the deformity, under attention to the general health, was gradually lessening. Like other cases of this kind, the defect was more observable under states of mental excitement.

"Mr. Prescott Hewett considered the operation should not be performed on young children. In adults it was a fair operation, and had proved a successful one in his hands. He related the dissection of a case which had been operated on some months previously, the patient dying from disease of the lungs. The muscle, which had been divided, was attached to the eyeball immediately behind its original attachment by means of a long slender tendon, formed of condensed cellular tissue three lines in length; this rendered the muscle operated on as long as the other recti.

"Mr. Dalrymple had witnessed many operations for strabismus, and seen no bad results follow them. He had heard of a case, however, in which the sclerotic was wounded, the vitreous humor escaped, and the eye was lost. In another case much ecchymosis ensued, followed by suppuration and loss of sight. There was more fear of danger from ecchymosis when the submucous operation was performed, than when the common proceeding was resorted to, as there could not, in the former, be a free escape of the effused blood. Granulations were not uncommon from the point of puncture, but as the wound decreased in size, the base of the granulation became very small, and it might be easily snipped off with a pair of scissors. He attributed the occurrence of external strabismus, after division of the internal rectus, to bandaging the eye operated on after the division, and he recommended tying up the sound eye instead, for two or three days. He thought the operation should not be performed before puberty, particularly on girls, as the occurrence of menstruation might remove the defect. Operation would not cure in cases where a child squinted on one day and not on another. He related a remarkable instance of this kind, in which on alternate days there was no squinting whatever: this continued for ten months. Quinine was given. He did not know the result. Intermittent strabismus, though not so marked as in this case, was not rare.

"Mr. Wade would not operate until adult age, or as long as there was any hope of cure from constitutional treatment. He had performed this operation many times. When he commenced the operation, he not only divided the tendon, but any fibres or cellular tissue which prevented the eye from becoming quite straight at the time, and tied up the eye afterwards. The eye protruded, and no benefit resulted from the operation. He had since only made a small opening into the conjunctiva, and merely divided the tendon, tied up the sound eye, and kept the patient in a darkened room. No bad results had followed, except in a few cases, an almost inappreciable increase of fulness in the eye, which, however, was not a balance against the good effected."—*Communicated to the Royal Medical and Chirurgical Society*, as quoted in the *London Medical Gazette, Feb.* 27, 1846.

15. "*Dangers of Operations on the Neck.*—Dr. Lenoir removed, on the 26th of October, a tumor from the neck of a man, aged forty-five, the exact nature and seat of which were not very positively known before operation. The tumor was raised by the arterial pulsations, but, on auscultation, no abnormal sound could be detected within it; the patient could swallow only liquid food, and M. Lenoir resolved on removing the disease, because suffocation had become imminent. The operation was performed with success, and its close was attended with a remarkable circumstance: the tumor had been separated on all sides from the healthy parts with a spatula, in order to avoid wounding the numerous vessels placed in the vicinity, and it still was attached to the neck by a pedicle placed at the basis of the cervical region. A ligature was, fortunately, passed round this pedicle before it was divided: and, after section, it was found to consist of the internal jugular vein. M. Lenoir remarks, that the operation might have terminated by the sudden death of the patient, from introduction of air into the vein, had not the precaution of tying the pedicle been prudently resorted to."—*Medical Times*, Dec. 6, 1845.

MEDICAL CHEMISTRY, MATERIA MEDICA AND PHARMACY.

16. "*Indian Remedies. By William Winder, M.D., Montreal.*—Although the Indians, being without the advantages of science to guide them in their choice of remedies in the treatment of disease, derive their principles from mere experience, it is certain, that we are indebted to their Materia Medica for many valuable articles of a vegetable kind. It is as certain that they are frequently successful in the adaptation of these articles to complaints of a formidable character.

"One of the remedies in great use amongst them is the *Geranium Maculutum*, which many eminent physicians of the United States rank as one of the most powerful vegetable astringents, being principally composed of *tannin* and *gallic acid*. In the second stage of dysentery and diarrhœa, after evacuants—in hemorrhages of the alimentary canal—and as a styptic in external bleedings, it rarely fails of giving relief. Its dose is from gr. x. to 3ss. of the powder, or 3ss. to 3j of a decoction made with a drachm of the root to half a pint of boiling water. With the Indians it is a favorite external styptic, the dried root being powdered and placed on the mouth of the bleeding vessel. It is also much used by them as a wash in leucorrhœa. Internally, in doses of half a teaspoonful in cold water, they consider it very efficacious in hemoptysis; and in this opinion they are fully sustained by Thaeker, Mease, Bigelow, and others.

"The *Xanthoxylum Fraxineum*, or Prickly Ash, is one of the most valuable remedies of the Indians, for the cure of rheumatism. It is said to resemble guaiacum in its properties, and is much used by the Americans as a remedy in chronic rheumatic complaints, and particularly in cases of a syphilitic taint. Bigelow says he gave the bark of this shrub in doses of ten and twenty grains with great advantage.

"The *Xanthoriza Apifolia* is an excellent tonic. Its composition is principally *resin* and *gum*; and the taste is intensely bitter. The dose is ʒij of the powdered root. The Indians administer it as a diuretic in dropsy, and also use a cold watery infusion for inflamed eyes.

*Per*A favorite and well-known remedy with the Aborigines is the *Eupatorium Cru foliatum*, having the familiar names, in the United States, of Boneset, ashwswort, Thoroughwort, &c. Its taste is intensely bitter, with a slight acc ingency, but no acrimony; and its operation is tonic, sudorific, cathartic, ten ording to the mode of its exhibition. It is given in *cold* infusion in intermittents, continued fevers, and inflammatory diseases; to produce vomiting and Pharsis in *hot* infusion; and as a tonic in substance. In the United States ad armacopœia, there is an officinal formula—*Infusum Eupatorii*. The natives minister it with good effect in fever, and as a common drink in acute rheuma-

tism, pouring a quart of boiling water on two drachms of the leaves, and drinking about three ounces three times in the day.

"The *Cornus Florida*, Dog Wood, is said to differ little in its chemical composition from the Peruvian Bark; and Dr. John Walker states, that of all the indigenous tonics, this is the most beneficial in intermittents. Thirty-five grains of Dog Wood Bark are said to be equal to thirty grains of cinchona. The Indians use a decoction of small branches and buds, in want of appetite and debility of the stomach. It is valued also as a poultice to correct ill-conditioned sores.

"The *Polygala Senega* is too well known to need description. It is much used by the Indians, who give it in cold infusion during the remission of fevers, attended with great prostration of strength; and in diseases of the pulmonary organs. They also esteem it highly in female complaints: and in this agree with Dr. Chapman, who considers it the most efficacious emmenagogue, and useful in all forms of amenorrhœa.

"It is not a little remarkable, that among all the Indian tribes known to Europeans, the *production of increased perspiration* constitutes one of their principal remedies. A favorite and universal mode of procuring this is by the use of the vapor bath. The construction of this is similar throughout the different nations of the north-west. Mr. Cormack, in his account of his expedition to discover the Aborigines of Newfoundland, or Red Indians, says, that he discovered, in a deserted village, the remains of a vapor bath. The method used to raise the steam was by pouring water on large stones made very hot. Over these, a hemispherical frame-work, closely covered with skins, was placed to exclude the external air. The patient then crept in under the skins, with a birch rind bucket of water, and a small bark dish to pour the water on the stones, and thus enable him to produce the steam at pleasure. He remains so long as the heated rocks retain sufficient heat to raise the vapor, when he retires, wrapped in a robe or blanket, and goes to bed. The bath is principally used in rheumatism, dropsy, and the cold stage of fever. Warm sudorific infusions are taken in the bath: and the debility induced is sometimes so great that the patient faints, which, however, followed by proper treatment, generally has a beneficial effect.

"I have said that the Indian is guided by experience in the treatment of disease. For example, when suffering from acidity of the stomach, he takes some of the absorbent earths that are found on the banks of the rivers. Bleeding in their inflammatory diseases is also much used. But the simple native of the forest does not employ the former from any knowledge he possesses of the principles of chemistry, nor the latter from any acquaintance with the laws of physiology.

"A modern writer states, that in their febrile diseases, they make the state of the skin and bowels the guide by which to regulate their practice. When the skin is moist for a considerable time, and the thirst ceases, they say there is no danger. When the evacuations from the bowels become less offensive, and change their color, the tongue becoming clean, they stop purging and diaphoresis. If there be great debility, they commence giving tonics, which are commonly bitters. Should these induce costiveness or a return of the fever, evacuants are again had recourse to. There is something so rational, and yet so simple in all this, that I hardly think we should find anything to improve upon it in Sydenham or Cullen; and, as the great Boerhaave tells us, that 'simplicity is the seal of truth,' probably there is here as much practical, unsophisticated truth, as will be found in the elaborate treatises of ancient and modern professors.

"That the Indians are acquainted with the mode of relieving inward pains by treatment *similar to the Moxa*, is seen by their burning a piece of touchwood over the pained part, and suffering it to produce a blister. They are also aware of the advantage of relaxing the muscles in dislocations; for in cases where they do not succeed readily, they nauseate the patient to a most distressing degree, and then find very little difficulty in reducing the luxation. Tumors and abscesses are allowed to suppurate, generally, without any application to them. When much inflamed and painful, plasters of bruised herbs, or warm fomenting

poultices, are used. If matter forms, they make an incision for its escape, and continue the poultices to promote the discharge."—*British American Medical Journal, January*, 1846.

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17. "*Houdbine's Vesicating Plaster.*—Three parts of purified Burgundy pitch, three parts of resin elemi, three parts of oil of cantharides, six parts of yellow wax, six parts of cantharides in fine powder, six parts of sulphuric ether, one part of finely-powdered camphor. The finely-powdered cantharides are placed in a vase, the ether poured upon them, and then left in contact for eight days. The Burgundy pitch, wax, and elemi are then melted with the oil at a gentle fire; the cantharides are added, and the mixture kept in the melted state for two hours at least, after which the powdered camphor is added.

"This composition is spread on a piece of cloth waxed on one side, the plaster adhering better than when the surface on which it is spread is smooth."—*Med. Times, Pharm.* No. Sept., 1845, from *Bauchardat's Annuaire* for 1845.

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18. "*Large Blisters, utility of, in combating Abscesses and Chronic Engorgements of the Iliac Fossa.* (Rayer.)—M. Rayer has efficaciously treated cases of phlegmon of the iliac fossa, whether suppuration has ensued, or whether it has been prevented by energetic revulsion, by means of large blisters applied successively on the abdominal parietes."—*Ibid.*

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19. "*Treatment of Buboes.* (Reynaud).—1st. At the commencement, if there are well-marked characters of inflammation, apply leeches. 2dly. When the bubo is in a state of suppuration, apply to the centre of the point of fluctuation a blister about as large as from a sixpence to a shilling, according to the extent of the tumor; when the blister is well formed, remove it entirely, dry the part, and place on the skin a pledget of lint dipped in a solution of one gramme of the bichloruret of mercury in thirty grammes of distilled water: a superficial eschar forms in about two hours; another pledget is requisite in a few cases, in which the eschar is not sufficiently well marked, after which the whole is covered by a large emollient poultice, and the eschar is soon detached. 3dly. When the bubo is in a state of induration, resolvent ointments, discutient plasters, and a gentle and continuous compression by means of hot bricks, are to be had recourse to."—*Ibid.*

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20. "*Cure of the Wounds caused by Blisters.* (Seidlitz.)—The wounds made by blisters are generally soon healed. When suppuration takes place, M. Seidlitz covers them, after the evacuation of the serum, with a layer of wadding, as is done for the dressing of burns, and he leaves the layer so applied until the wound is entirely cured."—*Ibid.*

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21. "*Treatment of Menorrhagia.*—Dr. Ditterich, of Munich, recommends the internal use of nitrate of silver as a remedy for this troublesome and obstinate complaint, as well as for the leucorrhœa which is present during the intervals and the nervous symptoms. His prescription is,

℞.—Nit. argenti gr. iij.
Aquæ distill. ℥ij. solve.

Of this solution ten drops are to be taken two or three times daily, and gradually increased to fifteen drops. The author affirms that the use of this solution, for a period of from four to six weeks, will perform a certain cure. After the lapse of about ten days, the leucorrhœa diminishes, and by the second menstrual period, the catamenial secretion is reduced to the proper quantity, and the nervous symptoms disappear. Koph has also recommended the nitrate of silver for the same disease, in doses of 1-10th to 1-12th of a grain every two hours."—*Northern Journal of Med.*, Dec., 1845, from *Neues Repert*, 1845.

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22. "*Vegetable Therapeutics.*—Among the latest French novelties, we find it stated that a Dr. Robert, probably owing to a want of patients in the animal kingdom, has taken up the medical treatment of vegetables! Many diseased

trees in the Champs-Elysées have been placed under the care of M. Robert, and some which had been given up have perfectly recovered under the cataplasms of this ingenious Frenchman. *Où diable la Médecine va-t-elle se nicher?*"—*Lond. Med. Gaz.*, Jan. 16, 1846.

23. "*Staphilæmatoma.*—Dr. Vitz has observed three cases of this disease of the palate, which has been called *hæmatoma palati*. It consists in the formation of one or several bladders, filled with fluid blood, and covered by the epithelium of the mucous membrane of the palate or uvula. If punctured, fluid blood is discharged. It causes no other inconvenience than a slight pain in swallowing or chewing, according to its situation. If not punctured, the contents are either absorbed or the tumor breaks, leaving a superficial, slightly painful ulcer, which heals in a few days. The causes are not known. One patient asserts that he has suffered from it once every year. A slight difficulty in eating sometimes precedes its appearance. It is about the size of a hazel nut, and, in the cases observed, was always accompanied by aphonia, which was invariably cured by puncturing the tumor."—*Med. Times, July* 14, 1845.

24. "*Treatment of Scabies by the Veratria Alba.*—The following formula is extolled in the *Annales de Thérapeutique.*

℞.—Powdered root of white hellebore 60 grammes= ℥ xv.
Black soap 25—30 grammes= ℥ vii.

Hot water sufficient to make an ointment. All parts of the body affected with the eruption are to be rubbed once a day with this compound; after a few frictions, the patient complains of heat in parts which have been exposed to the ointment, and the itching of the scabies has ceased. One or two common warm baths are now necessary. If fresh vesicles should show themselves, they are to be similarly attended to."—*Ranking's Retrospect, Jan.*, 1846.

25. "*Fumes of Belladonna in Hæmoptysis.*—M. Schroeder speaks highly of this herb in hæmoptysis, used in the following manner:—The dried leaves are cut into small pieces, and about two drachms are then thrown upon burning coals, so that the patient may be enabled to inspire the fumes as they arise. In all the cases of hæmoptysis in which this simple expedient was tried, the author found it effectual in arresting the hemorrhage, generally at the same time allaying the cough, and producing a feeling of relief in the chest. It is singular that inhalation of the steam from a decoction of these leaves, or their internal administration, does not appear to have an equally beneficial effect."—*Ib.*, from *Annal. Univ.*

26. "*New Method of applying Ligatures to Nævi.*—Mr. Christopherson advises the following modification of the usual method of performing this operation. The plan, which is sufficiently simple, is thus described:—'Take a piece of strong silk or ligature, well waxed, and three quarters of a yard in length. Thread a curved needle with the same, leaving the ends equal, and pass it double under the centre of the part requiring to be removed. This done, cut the ligature in the middle, leaving the needle attached to the inferior portion, which is then passed through the skin immediately below the part to be strangulated. Thread the needle with the superior portion of the ligature, and pass it through the skin in an opposite direction, immediately above the part to be strangulated, and remove the needle.' In the next place, 'tie as tightly as possible the two ends of the loop which includes the inferior half of the tumor, and strangulate that portion of the part to be removed. The four ends of the ligature remaining are now to be tied tightly and alternately, the one to the other, and the operation is complete. The whole mass being thus enclosed in a double circle by the ligature, both within and without, must be effectually strangulated.'

"The advantages said to be possessed by this method are: that it is simple and quickly performed; that it leaves less deformity than the common method; that it can be applied in situations in which other means cannot be conveniently

employed: and thus the strangulation must necessarily be complete."—*Lancet, June* 14, 1845.

27. "*Paralysis of the Portia Dura produced by Tobacco Smoking.*—Mr. Smith, of Sheffield, records two cases in the *Provincial Journal*, of this affection. He attributes the paralysis to the sedative action of the tobacco-smoke, and remarks that:—

"He is not aware of any case of paralysis of the portia dura on record having been attributed to the use of tobacco; nor, indeed, does he remember seeing an account of any case of paralysis which has been imputed to this cause. Still he thinks a result of this kind is quite in keeping with what we know of the physiological properties of the oil of tobacco, and is an effect which *à priori* reasoning upon them would lead us to expect. It is reasonable to suppose, that the practice of volatilizing so powerful a sedative poison, and applying its vapor to the lining membrane of the air-passages, should produce derangement of the nervous system, varying in intensity according to its greater or less dilution with atmospheric air; and that, therefore, on the nervous fibrils proceeding from the mucous membrane of the mouth, a situation where the vapor must be comparatively concentrated, the effect should be most considerable. The sedative operation of tobacco has also been found by experiment to be exerted chiefly on the motor system; and it is quite in accordance with our knowledge of the nature of reflex action, that an impression of any sort, although immediately acting, as in this case, upon a sensory nerve, should be conveyed through its medium to the corresponding motor nerve."—*Lancet, Nov.* 15, 1845.

TOXICOLOGY.

28. "*Poisoning with Arsenic.*—MM. Maresk and Dados have ascertained that when a pregnant woman is poisoned with arsenic, the arsenic may be transmitted to the fœtus. In an official investigation of a case of this kind, they discovered traces of the poison in a fœtus at the fourth month. The uterus and the placenta also contained arsenic, but the placenta contained a proportionally larger quantity than the fœtus. The liquor amnii contained no arsenic; at least the quantity, if any, was inappreciable.—*Bulletin de la Soc. de Med. de Gand.*

"'Two families named Foucaux and Brument resided near Normanville in France. A criminal intercourse existed between Brument and Foucaux's wife, and shortly after a quarrel growing out of this circumstance, Foucaux and Brument's wife died within a few days of each other, having both been affected with symptoms of poisoning.

"'The bodies were exhumed, and the analysis of the intestines gave the same result in each—viz., arsenic and antimony were detected in both instances, the quantity of arsenic greatly preponderating. The medical witnesses, though they had no doubt the deceased persons were poisoned, expressed their astonishment at the simultaneous presence of those two substances, inasmuch as the physicians who had attended the victims stated that they had administered no antimony. During the investigation, however, it was ascertained that the two prisoners had several times administered to their victims the substance known as the "Medicine of Leroy."*

"'This circumstance at once accounted for the mixture of antimony and arsenic, but also gave rise to the following questions:—"Do antimonial preparations contain arsenic. And if so, could the arsenic detected in those cases be derived from that source?

"'In the present instance the answer to those questions was clear. The "Medicine of Leroy" consists entirely of antimony, senna, and white wine. It

* It is vulgarly believed that the "Medicine of Leroy" enjoys the property of causing traces of poisoning to disappear.

is true that arsenic exists in very minute quantities in most specimens of antimony, but apothecaries are expressly enjoined before they vend or use antimony for any pharmaceutical purpose to ascertain the amount of arsenic in the antimony sold or used. Furthermore, granting that the antimony employed to prepare the "Medicine of Leroy" contained arsenic, the quantity of arsenic present would have been very small compared to the quantity of antimony, while the analysis on the contrary detected a great quantity of arsenic, and very little antimony.

"'The fact of poisoning could not then be doubted, especially as the testimony of the physicians who had attended the deceased quite coincided with the chemical evidence.'"—*Gazette Médicale de Paris.*

MISCELLANEA.

29. "*The Medical Congress at Paris.*—The importance of the Medical Congress which has just taken place in Paris, is such as to render it imperative on us to present our readers with a detailed account of its doings and proceedings, and this we now propose doing.

"The medical profession in France, although organized in a much more efficient and liberal manner than in this country, presents still many anomalies and imperfections, which have given rise to much discussion during the last few years. The necessity of extensive modification has, indeed, been so deeply and so extensively admitted, that the Minister of Public Instruction promised last session to bring before the Chamber of Deputies in 1846, a bill calculated to remedy the evils complained of. As with ourselves, there is so much difference of opinion respecting the nature of the reforms that are required, that it appeared probable to most of those who took any interest in the question, that unless some means were previously taken by the profession to discuss the subject, and to embody in a series of propositions the results thus arrived at, the measures adopted in the parliamentary bill would most likely please no party. Under these circumstances, a few months ago, the editor of the leading medical journal, 'The Gazette des Hôpitaux, or French LANCET,' proposed that a medical congress, composed of delegates from all parts of France, should meet in Paris, prior to the opening of the Chamber of Deputies, and discuss the entire subject of medical reform. This idea was at once responded to with enthusiasm. On the 14th of last June, a meeting of the editors of the Parisian medical journals took place, the convocation of a national congress was unanimously approved of, and it was decided that publicity should be given to the plan, and that a request should be addressed to all the medical, pharmaceutical, and veterinary societies in France, to send delegates to a preliminary meeting to be held on the 2d of August. At this preliminary meeting, composed of delegates from the scientific societies, and of the editors of the medical journals, a committee of fifteen members, representing the three sections of medicine, pharmacy, and veterinary medicine, was appointed and empowered to make every necessary arrangement for the organization and convocation of the congress. The powers thus granted to the committee were strictly limited to the above points.

"The first step adopted by the preliminary committee was to give as extensive publicity as possible to the decision of the meeting of the 2d of August, respecting the congress. The members of the medical profession were addressed through the political journals, which generously gave every possible assistance, and through the medical and scientific societies; whilst, on the other hand, direct communications were made to the faculties, to the medical schools, and to the most eminent men in the profession. More than three thousand five hundred collective or individual adhesions were the immediate result of these measures, and the warmest sympathy was everywhere expressed. Of these, two thousand five hundred were doctors in medicine, nine hundred 'pharmaciens' (chemists and druggists), and the remainder veterinary practitioners. The above figures may be said to represent the relative numbers of the members of the three professions in France.

The French laws which forbid associations even for scientific purposes, unless with the permission of the authorities, rendering the sanction of government indispensable, application was first made to M. DE SALVANDY, the Minister of Public Instruction, and to the Minister of Interior. Their support having been obtained, the necessary authorization was granted by the Minister of the Interior. M. de Salvandy, the minister of Public Instruction, entered warmly into the views of the committee, drew their attention to the most important question requiring elucidation, requested to be put into regular communication with the congress, and promised to defer the introduction of his medical bill until the congress had terminated its labors, in order that he might embody in it the results arrived at by that assembly. The sanction of the Minister of Commerce, under whose jurisdiction are chemists and druggists (pharmaciens), was likewise promptly and graciously given, as also that of the Minister of War, on his being requested to allow the army medical, pharmaceutical, and veterinary practitioners to become members of the congress, and to take a part in its discussions. As an additional proof of the cordial and enlightened co-operation of the public authorities, we may mention, that one of the largest and most commodious of the saloons in the Town Hall (Hôtel de Ville), was granted by the Prefect of the Seine for the use of the congress during its sittings, which were to last a fortnight.

"On the nomination of the preliminary committee, in August, it was entrusted with the drawing up of a code of rules, designed to regulate the meetings of the congress, which rules were to be discussed on its first assembling. When, however, the sanction of the public authorities was requested, the committee was enjoined to exhibit the laws by which the congress was to be governed, which laws, it was told, once approved of, must be considered definitive. It thus became evident that government would not allow so large a body to meet without knowing precisely what would be the nature of its organization, and the ends it purposed attaining; fearful, no doubt, lest it should be diverted from scientific to political purposes. The committee was therefore obliged to transgress its powers in this respect, and to draw up a series of regulations, which became binding on the part of the congress. This part of its duty, however, was accomplished in such a manner as not to offend any opinion, or afford room for discussion; the rules thus imposed on the congress merely relating to the division of the delegates sent to the Congress into three classes—medical, pharmaceutical, and veterinary; to the hours of meeting; to the mode in which the discussions should be carried on, &c.

"The 5th day of November was the day fixed for the first meeting of the congress. Between the epoch of its nomination and that day, the committee met sixty times, and an immense number of documents, relating to all the questions that were to be discussed in the congress, were received, and carefully analyzed. On the day appointed, several hundred delegates, deputed by the three branches of the profession, from every part of France, arrived in Paris, and the congress was formally opened at the Hôtel de Ville, under the presidence of M. Serres, the late president of the Academy of Sciences. But before we commence analyzing the proceedings of this important assembly, it is absolutely necessary that we should give a short account of the present organization of the medical profession in France. This, however, we shall do very briefly, referring to the essay now publishing on this subject, in the LANCET, by Dr. Henry Bennet, for further details.

"The medical profession in France, as far as medicine and surgery are concerned, constitutes part of the University of France, which is itself under the jurisdiction of the Minister of Public Instruction. The University of France is composed of five faculties, the faculty of theology, the faculty of sciences, the faculty of arts (letters), the faculty of law, and the faculty of medicine. Some of these faculties are multiple. Thus there are three distinct faculties of medicine, those of Paris, Montpelier, and Strasburg. The three faculties of medicine all present the same organization, with the exception that the one in Paris has a larger number of professors, and is more efficiently composed than the other two. They all examine and grant degrees. In addition, there are a number of secondary medical schools in the large provincial towns, the certificates of which are received for

part of the curriculum, but which have no power to examine or to give diplomas. The degrees awarded by the faculties of medicine are those of doctor in medicine, doctor in surgery, and officer of health (officier de santé). The degrees of doctor in medicine and doctor in surgery are pretty much the same, the only difference being, that to obtain that of doctor in surgery the thesis *must* be on a surgical subject; whereas, for the degree of doctor in medicine, it may be indifferently either on a medical or on a surgical question. The degree in surgery, therefore, is scarcely ever taken, not by one in a hundred. The curriculum being precisely the same for both, and the doctors in medicine nearly all practising surgery and midwifery, as well as medicine, indeed everything that comes in their way, the distinction is not recognized either by the profession or by the public. The doctors are also obliged, previously to commencing their studies, to take out two university degrees, that of bachelor of arts in the faculty of arts, and bachelor of sciences in the faculty of sciences.

"The officers of health are a very inferior grade of practitioners, from whom no university degree is demanded, and whose medical education merely extends over a period of three years. They are generally ignorant men, of illiterate habits, and have no station among the educated classes of the community. Their degrees are partly granted by the faculties, but principally by travelling juries, formed of three professors from each faculty, who every year make a kind of circuit They are considered the bane of the profession, and certainly by their unequal competition with the regularly educated practitioners do much towards destroying professional profits, and degrading the profession. A very strong feeling against them exists, and there can scarcely be a doubt but that the grade will shortly be abolished.

"The chemists and druggists (pharmaciens) constitute a very different body from what they are with us. They alone are allowed to keep and sell medicinal preparations, unless there should be none residing within a reasonable distance of a doctor or officer of health, in which case the latter is allowed to keep and prepare medicines, but for his patients only. The pharmaciens are all graduates of the schools of Pharmacy of Paris, Montpelier, and Strasburg. To obtain their degree, they have to go through a three years' course of study at one of the above schools of pharmacy, which, although under the control of the university, are distinct from the faculties of medicine. By a recent decree, the degree of bachelor of arts (letters) will henceforth be demanded of all students previous to their entering at these schools, a measure which will entail upon them an eight or ten years' previous course of classical study. They are not allowed to sell anything but drugs, or to keep on their premises, or to retail, secret remedies, or any other formulæ but those which are contained in the codex, or for which they have received a prescription signed in full by a doctor or officer of health. They are thus restricted entirely by law, to the preparation of prescriptions of medical practitioners, of which, on the other hand, they have the monopoly. The veterinary schools are not under the jurisdiction of the university, but of the Minister of Commerce. The organization of the veterinary body is far from being as complete and as satisfactory as that of the medical and pharmaceutical.

"Such is the present state of the medical profession in France. Brief as is the above sketch, it will enable us to follow the Parisian congress in its interesting and important labors.

"*Opening of the Congress.* The deliberations of the congress were opened by a short but most energetic address from M. Serres, the president, of which the following is a summary:—

"'Gentlemen, and dear colleagues.—Social epochs present characters which distinguish them, and stamp their impress upon them.—The ruling character of the nineteenth century is, the tendency to perfecting the physical and moral welfare of man. Sciences, arts, private and general industry, everything tends towards this end; every one is carried along by this general movement, men as well as governments.—Among human sciences there is one which, for the last three thousand years, investigates the wants of humanity, and ever meditates upon them.—To this science humanity owes, in a great measure, the physical welfare which it now enjoys.—This science is medicine, the dominion of which

embraces surgery, pharmacy, and the veterinary art. Thus it is that the medical family folds, as it were, within its arms, society in general.—It ploughs the waves with our vessels.—It accompanies our soldiers in the camp, and on the field of battle—it watches at the domestic fire-side, in hospitals, and in prisons.—Human vicissitudes meet it nearly everywhere, and everywhere they find it prepared to make the greatest sacrifices.—The more important, the more indispensable, the services which the medical body render to society, the more attentive a government should be to the institutions which regulate it.—Thence the anxiety of our government to improve the laws which govern medical institutions.—It is our duty to acquire as much information as possible, in order that we may be of the greatest possible utility to our fellow-creatures.—It is the duty of the government to protect us in the application of the knowledge we have thus acquired, and to see that all the members of the social body are benefited by it.—One of our great men has said, I know nothing in the world more contemptible than a cowardly soldier, or than an ignorant medical man; the first is contemptible, because he compromises the fate of his country in the day of danger; the second, because he compromises, hourly, the life and welfare of his fellow-creatures.—Thanks be to Heaven there is not a cowardly soldier in France, and government is under the obligation to society to render it *impossible* that there should be such a person as an ignorant medical practitioner.'

"At the conclusion of M. Serres' address, presidents, vice-presidents, and committees for each of the three sections of the congress were elected. The preliminary committee had drawn up lists of those whom they thought they could best recommend to fill these posts, which lists were read to the assembled members of the congress, and adopted by ballot, with but very slight alteration. This plan was adopted in order to save time and prevent confusion. The system subsequently pursued was as follows;—the committee of each section first met and discussed a number of questions, comprehending all the points which it had been thought expedient for the congress to examine, adopting a report thereon. The reports thus framed in committee were brought before general meetings of the section to which they referred, and were there finally discussed and amended.

"The following is a brief synopsis of the results arrived at by the congress, the labors of which extended from the 4th to the 14th of November:—

"The division of the teaching of the medical sciences between the three faculties and the preparatory schools is advantageous. (The utility of the preparatory or secondary medical schools has been much questioned of late. By this resolution their continuance has received the sanction of the congress, but it is also considered advisable that they should remain strictly preparatory schools, and only be entrusted with the first period of the education of students, all of whom ought to complete their studies in the faculties.)

"The establishment of chairs of history and medical philosophy in the three faculties is advisable; also that of one on pathological anatomy in the faculty of Montpelier. (These chairs are at present wanting.)

The Paris hospitals devoted to certain special diseases ought to be made the theatre of official clinical instruction. (M. Lisfranc proposed, as an amendment, that all hospital physicians and surgeons should be obliged to give clinical lectures on the patients entrusted to their charge. This amendment, however, was negatived, on the plea that it would be too great an interference with individual liberty; but the wish was expressed that all medical officers of all hospitals should be at liberty to lecture on their patients independently of any special authorization. They are now obliged to apply for the sanction of the civil authorities of the hospital, by whom, however, it is never refused.)

"The number of faculties now existing is sufficient, being neither too considerable nor too small. (It had been proposed by some to abolish the faculties of Montpelier and of Strasburg, transferring them into secondary schools.)

"The secondary schools should be made more efficient, and connected as intimately as possible with the medical and surgical departments of the local hospitals. They ought also to be withdrawn from the hands of the local authorities, by whom they are now regulated, and placed under the jurisdiction of the university. Students educated at them should be obliged to pass an examination at

the close of the second year's studies, previous to being allowed to commence the third.

"All legally qualified members of the medical body in France should have the right by law to teach the medico-chirurgical sciences, and government ought, in Paris and the principal provincial towns, to place at the disposal of medical practitioners thus wishing to teach any branch of medicine, an appropriate locality, and afford them every assistance. At the same time, lectures thus given are not to interfere with the official instruction given at the faculties and secondary schools, nor to constitute a title towards obtaining university degrees. In a word, they are merely to represent opinions and doctrines.

"The authorities are requested to insert in the new medical law a special article, favoring in every possible way clinical teaching by physicians and surgeons to hospitals, both in the metropolis and in the provinces, and giving them the greatest latitude on this score.

"The nomination of professors in the faculties of medicine, in the special schools of medicine, and in the veterinary schools, ought always to take place by concours. (The concours has adversaries in France, and was warmly attacked by them in the congress, but without success.)

"The functions of professors ought to be temporary, and to cease at the age of sixty-five. The professors should then become honorary, and take a part in the board-meetings, deliberations, concours, and administrative labors of the faculties and secondary schools, but without participating in the examinations. They should enjoy their entire salary until the age of seventy, and then retire.

"The mechanism adopted for the concours in the faculties ought also to be adopted in the secondary medical schools—that is, one-third of the judges should be taken from among the professors, one-third from the medical academies or societies, and one-third from practising members of the profession.

"The existing institution of assistant professors in the faculties (*aggregés*), appointed by concours, is approved of, and it is suggested that their salaries should be increased.

"The preliminary literary guarantees now demanded of pupils who enter the medical profession are deemed sufficient, but not too onerous. These guarantees are a bachelor's degree in letters (arts), and a bachelor's degree in sciences. They presuppose a classical and scientific education, of ten years' duration.

"It is thought expedient to prolong the duration of medical studies from four years to five, to exact an examination at the end of each year, and to oblige all students to serve for at least a year as dressers in some hospital.

"The admission and final examinations of doctors should be entrusted to a jury formed partly of professors and regular examiners, and partly of practitioners. The examinations of students should be made even still more practical than they now are. In addition to the five examinations already exacted, a sixth should be added on the subjects treated of in the new professorships of medical philosophy and history.

"Such are the views of the congress with reference to that portion of the medical organization of France which relates to teaching and examining pupils, and to receiving candidates. The results arrived at with respect to questions relating to the exercise of the medical profession are still more important.

"The first question discussed was that of the existence of two orders of medical practitioners. The expediency of having an inferior grade of practitioners was denied, and the institution of officers of health was declared illegitimate and dangerous. This opinion was clearly announced in the following resolution, which was carried unanimously:—That it is to be hoped that in any future medical law one class of medical practitioners only will be recognized, that of doctors in medicine. That should such a decision be come to, existing officers of health might be allowed, during five years, to offer themselves as candidates for the M.D. degree at any of the faculties.

"It was also decided at the same time, that the institution of district medical officers, to take care of the poor, was not necessary, and would be an attack on the liberty of the medical body. (This decision of the congress was arrived at in opposition to the wishes generally expressed in the documents received from the provinces.)

"It was proposed, that debts for medical and surgical services should be recoverable by law during a period of five years from the time they are contracted, instead of during one year only, as at present.

"The responsibility of a medical practitioner in a medical case cannot be estimated by non-medical persons. In any case, therefore, in which his responsibility is called into question, the penal articles of the code ought only to be applied after a decision has been obtained from a medical jury.

"In no case ought a medical practitioner to be obliged to give evidence against his patients, or to reveal to the authorities facts which have become known to him in the exercise of his profession.

"The exercise of medical practice should be confined strictly to persons qualified by law, and any infringement should be visited by efficacious and energetic punishment. The treatment of sick persons by a non-qualified person ought to be considered penal, even should his prescriptions have been signed by a qualified practitioner.

"Councils of discipline should be organized in different parts of the country, and endowed with sufficient power to render their jurisdiction efficacious.

"Foreign practitioners ought not to be admitted to practice until they have given to government the same guarantees that are demanded of native practitioners. Political refugees, however, should be exempted from all the expenses of examination and admission to the M.D. degree.

"It would be inexpedient, unjust, and impossible, to limit the number of medical practitioners. The medical profession ought to remain, above all others, a liberal profession.

"It was decided, that all advertisements, by means of newspapers, placards, prospectuses, pamphlets, or other modes of publicity, with a view to announce the arrival of a medical practitioner in a locality, his address, a particular means of treatment, or the sale of any medicinal preparation, ought to be forbidden, under a severe penalty. That by the word medicinal preparation should be understood all simple and compound substances or preparations, announced, sold, or distributed, as possessing medicinal properties.

"That none but 'pharmaciens' should be allowed to prepare, to sell, or even to distribute gratuitously, any pharmaceutical preparation. That druggists should be allowed to trade wholesale in drugs, but not to sell them by pharmaceutical weight.

"That there should be no exception to the foregoing clause, except in favor of persons now trading as 'herborists,' who might still be allowed to sell non-poisonous and indigenous medicinal plants; but that in future no one should be allowed to commence business as a 'herborist.'

"That hospitals and other charitable or religious communities should only be allowed to have a pharmacy for their own particular use, and should not sell nor distribute out of doors any medicinal substances.

"That the existing laws which forbid the sale of secret remedies should be enforced.

"That no pharmacien should be allowed to keep two establishments.

"That no person should unite in his own person the profession of medical practitioner and that of pharmacien.

"That medical practitioners not residing within a certain reasonable distance of a legally qualified pharmacien, shall be allowed to furnish medicines to their patients, provided the residence of such patients should be similarly situated in that respect; but that on a pharmacien settling within the prescribed limits, the privilege should cease.

"That a public or private partnership or connection between a medical practitioner and a pharmacien should be forbidden under a severe penalty. That all collusion between medical practitioners and persons foreign to the healing art should likewise be severely forbidden.

"That each year the faculties and preparatory schools should choose, by means of the concours, from amongst the pupils who have studied during two years, a certain number to whom scholarships would be given, in order to enable them to continue their studies at the faculties.

"That government should establish, in the localities where mineral waters

exist, asylums or hospitals for the use of the poor. That government should take proper measures to ensure the admission of pauper patients from rural districts into the hospitals of the department or district. That government should take necessary measures in order to ensure the reception into the hospitals of travelling poor provided with passports of indigence, should they fall ill on their journey. (These passports entitle those to whom they are granted to a small sum per mile.)

"That in the rural parishes, as well as in more important parishes, there should be dispensaries established in order to furnish to the poor medicinal and pharmaceutical remedies, the medical officers of which might be entrusted with the registration of births and deaths in small localities.

"That the physicians and surgeons to hospitals and other charitable institutions should always form a part, in proper proportion, of the administrative Board.

"That each year the physicians, surgeons and pharmaciens of all the hospitals and establishments of charity should be called upon to meet, and to make to the competent authorities a report on the imperfections existing in their establishment, and on the ameliorations required. That copies of these reports should be sent to the heads of the administration to which the charity belongs, to the Minister of the Interior, and to the Prefects of the Departments.

"That all physicians and surgeons to hospitals should be named by concours, and for a period of fifteen years only, during five years of which they should be assistants, and during the remaining ten, heads; that after the expiration of the fifteen years they should become honorary, but with the power of again contesting the appointment should they think proper. That no hospital physician nor surgeon should have more than sixty beds under his care.

"That the physicians connected with the mineral watering towns should be named by concours and submitted to a regular gradation in rank. (At each of the French towns where there are mineral waters there is a physician appointed by government to superintend their administration. These appointments are lucrative, and at present in the uncontrolled gift of government.)

"That the concours should be adopted for the nomination to all appointments to which it can be applied; that when the concours cannot be applied, certain rules should be followed as much as possible,—the anterior claims of candidates, their previous successes in concours, their scientific labors, their previous services in scientific establishments, &c., being taken into consideration.

"That the prerogatives and rank of the medical officers of the army should be modified, so as to render their position more in unison with the real importance of the functions which they fulfil.

"That no female should exercise the duties of midwife unless she has shown proof of having received a sufficient amount of primary instruction, and of morality of conduct; and unless she has studied this department of medicine during two years at least. The midwives received in the faculties, and in the preparatory schools, or by a medical committee, in towns where there is a midwifery charity affording sufficient means of instruction, ought to undergo two examinations; one on the theory, the other on the practice of midwifery. Midwives should not be allowed to practise any serious obstetric operation, or to attend in cases of disease. The only operations which they ought to be permitted to perform are, bleeding and vaccination.

"In conclusion, the congress, instituted in a spirit of concord, wished to finish its labors in a spirit of union, and consequently adopted, as a last proposition, the following resolutions:—

"That free medical associations should be formed wherever it is possible, with the double view of perfecting science and of organizing provident institutions.

"That these associations, formed in the chief town of each arrondissement, should, by delegates, constitute societies in the chief towns of each department, which would, lastly, centralize in Paris.

"The above propositions embody the results at which the Parisian congress has arrived, after the most searching investigations and discussions, carried on, firstly, in the committees, and secondly, in the public assemblies. All these discussions and deliberations took place publicly."

2.

American Intelligence and Editorial.

Obituary.—Died at Salisbury, Connecticut, April 19th, 1846, Luther Ticknor, M.D., President of the Connecticut State Medical Society, in the 56th year of his age.

In this announcement some of our readers will recognize the name of one who was endeared to them by many excellent and noble qualities, and who filled, for nearly thirty years, a wide space in the medical profession of the State of Connecticut.

Dr. Ticknor was born in Jericho, in the State of Vermont, March 9th, 1790. At the age of fifteen, he lost his father, who was accidentally killed by the falling of a tree. The oldest brother, Dr. B. Ticknor, now of the U. S. Navy, having left home, the whole charge of a family of eight persons, including six younger brothers and a sister, devolved on the subject of our notice; and although in indigent circumstances, he kept them together and furnished them, by his own personal exertions, the means of support, for the space of three years. At the end of that time the family were broken up; two of his brothers and sister, he placed at school, and he himself engaged in laboring on a farm for two years longer. He then commenced the study of medicine with the late James R. Dodge of Salisbury, Connecticut, and supported himself and the three other members of the family above mentioned, by teaching school a part of the year. One of these brothers was the late lamented Caleb Ticknor, M.D., of New York, whose early loss to science cannot be sufficiently deplored.

Dr. Ticknor was endowed by nature with uncommon intellectual vigor; great energy of character; indomitable perseverance; and a courage that quailed at no obstacles, however great, or apparently insurmountable. He loved his kind with pure and disinterested affection; his benevolence of heart knew no bounds, and his life corresponded to the generous impulses of his nature; he wore himself out in serving his fellow men, and doing good. It is not too much to say, that few, if any physicians, have lived in our country, who maintained in the circle in which they moved, more respect and confidence from their professional brethren, or a higher character with the public as a physician and a man.

Dr. Ticknor was emphatically a self-made man. He had raised himself, by his sole unaided exertions, from an humble sphere of life, and he delighted in looking back and recounting the difficulties he had conquered. With his own hand, he had carved out his path to distinction and eminence, and he felt an honest pride in contemplating the ruggedness of the road along which he had travelled, and in lending a helping hand to those entering upon the same path. No physician in the State of Connecticut, it is believed, has performed a greater amount of gratui-

tous medical services, or aided more indigent young men in obtaining a medical education, than Dr. Ticknor; and in no instance scarcely, has it been known, that a student, who enjoyed the benefits of his instruction, failed to make a highly successful and useful practitioner.

It is difficult to say whether the excellent qualities of his head or his heart predominated. There certainly were combined in him, extraordinary intellectual and moral endowments with great physical energies, a constitution which braved all manner of hardships and exposure, incident to country practice, for nearly the third of a century. If ever an individual lived, who was totally regardless of his own health and comfort, and wholly absorbed in ministering to the necessities of others, that person was Luther Ticknor. His daily life was a perpetual and standing refutation of the maxim, that there is no disinterested benevolence in the world. The question, whether a patient was able to make any remuneration for his services, never even entered into his calculations—indeed, it is believed that he would sooner have attended the poor than the rich; his sympathies, feelings, instincts, all seemed to draw him that way; and if his indignation was ever roused, it was, when he heard of physicians who converted their art into a money-making trade, and speculated upon the miseries and sufferings of their fellow men. Hence, it was no part of Dr. Ticknor's ambition to accumulate wealth; if fees were offered him, he took them if he needed them, at the time; if not, he would as generally decline, or postpone accepting anything till some future occasion. There was indeed a nobleness, a generosity, a greatness in his nature, which commanded admiration—they were stamped in indelible characters on his dignified, manly form and features; and endeared him to the entire community, as few men have the fortune to be endeared to their most intimate friends. He was truly one of nature's noblemen—a true-hearted, ingenuous, trustworthy man, of classical and heroic stamp, who conferred not only honor and dignity on his profession, but on human nature itself. But, if he loved and honored his profession, as one of the most dignified and useful callings, his profession also loved him; and it is believed that there was no office of honor or dignity, within their gift, which they did not again and again urge him to accept. For many years he officiated most acceptably as one of the examiners of Yale College, and at the time of his death, he held the office of President of the "*Medical Society of the State of Connecticut.*"

The most prominent traits in the character of Dr. Ticknor, were strong common sense; solidity of judgment; great powers of observation and discrimination; and a memory the most retentive we have ever known. Indeed, he was endowed with a native strength of understanding, which enabled him to grapple successfully with any subject, however intricate or abstruse. To this were united an originality of thought,—a felicity of expression,—a command of language, rarely to be met with in habitual debaters; so that he had few equals in conversation, as there were few more profitable or agreeable companions. As a medical practitioner, Dr. Ticknor had few, if any superiors. His mind was eminently of a practical cast, discriminating and well-balanced. He was no mere theorist. He had no hobbies. He was no slave to prejudice. Hypothesis had no charms for him. He was a disciple of the Hippocratic school,—a true and simple observer of nature; whose laws he first aimed to discover, and then to act in accordance with them. His highest ambition, accordingly, was to be the "SERVANT AND INTER-

PRETER OF NATURE." He never boasted of having arrested or cured a disease; but believing that the Creator himself had perfected all the arrangements for that end, he considered it his sole business to give them full play. To this end, he adapted medicinal agents and hygienic measures with wonderful skill and judgment, and the result was an eminent degree of success in the treatment of disease. But although great as a physician, he was something more;—in him, the friend and the physician were combined; his affection, good sense, and sympathy poured into the afflicted the oil of comfort; he soothed the pangs of woe; he mitigated their distress; he found out something in the wise dispensations of Providence that he carried home to the bosom of affliction. Hence it was that he was looked on as a guardian angel; his assiduity made him appear as a sufferer with the family—they viewed him as one of themselves—sympathy united him to them; he acquired new ties, new affections; he mourned with them, and his philosophy pointed out new sources of consolation—he was beloved—he was everything that heaven in kindness deputes, to soften and dissipate human misery. In short, Dr. Ticknor attained that "highest style of man"—he was a Christian.

We do not wish to overcharge the picture. It is true, he was our friend and brother. But we describe him as we have known him for more than thirty years, and as he is known to the profession throughout Connecticut. There, on the field of his usefulness and his fame, and where he was best known, the truthfulness of our sketch will be felt and acknowledged; there, where he fell, a martyr to his profession, in the full career of his success, and the maturity of age and experience, his memory will ever live in the hearts of those who love to contemplate examples of true heroism,—of disinterested benevolence,—of honorable usefulness.

Dr. T. was the friend of progress and improvement in every department of life, and especially so in matters relating to the medical profession. When he looked abroad and saw every other class of men rapidly on the advance, and emulously engaged in extending the boundaries of their future usefulness, he could not remain an idle spectator of the scene; but zealously embarking in the same noble cause, he exerted all his influence in raising the standard of excellence in the profession which he loved, and which he pursued with ardent and disinterested zeal. Accordingly, no sooner had he learned that a National Medical Convention had been proposed for the accomplishment of these very objects, than he immediately recommended the plan in an able letter published in our Journal for Nov., 1845,—and we believe that by this letter an additional impulse was given, which seems destined to crown the enterprise with success. He never paused to calculate what the consequences of a particular measure would be to himself, or how it would affect his own personal or pecuniary interests; he looked to the "greatest good of the greatest number." He did not pause to weigh the chances of success or failure in such a Convention, as was contemplated; he looked only at the objects in view, and deeming them important, he gave to the project the entire weight of his name, and his influence. The last official act of his life was to convene the Medical Society of the State at New Haven on the 28th of April, for the purpose of electing delegates to the Convention.

The foundation of Dr. Ticknor's death was laid in the incessant fatigue and watching to which he was exposed during the last two months of his

life. For forty days and nights he scarcely enjoyed an hour's rest undisturbed by calls, and but few times during that whole period were his clothes removed for the purpose of repose and sleep. Just one week previous to his death he was attacked with a violent chill, which was the precursor of a severe attack of bilious pneumonia, of a highly congestive, typhoid type, which ran its course unchecked by the means employed, and which terminated his valuable life on the evening of the 19th of April, 1846.

It was our melancholy lot to stand by the bed-side of the deceased during the last two days of his life, and witness the progress of a disease which had passed beyond the control of human art; and we shall not soon forget the perfect composure, fortitude, and resignation, which he manifested in the midst of extreme suffering and distress, and the unflinching calmness with which, in the full possession of his reason, he resigned his spirit into the bosom of his Creator.

It was also our fortune to be present on his funeral occasion, and there we witnessed a scene which will never pass from memory, while memory lasts. The shops and stores of a thriving village all closed upon a week-day, as upon the Sabbath; a congregation of people, larger than was scarcely ever known to assemble in that place on any occasion, melted to tears; sobs bursting forth on every side; in short, one common feeling seemed to prevail, and that was one of deep, uncontrollable, and absorbing grief.

Thus passed from the earth a man, who was indeed A MAN,—whose character had as few blemishes in it as may be permitted to the natural weaknesses of humanity, if not as many excellences as our natures are capable of attaining in this imperfect state of being. It is consoling to reflect that he has left an example worthy of imitation—a reputation unsullied by a single blot—a name which will never be mentioned but with tears of gratitude and affection by thousands now living. These constitute a rich legacy which may well be treasured by his friends, and handed down as an heir-loom to posterity.

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NATIONAL CONVENTION.—Our readers will have observed that some of the preceding numbers of our Journal have contained remarks relating to the present state of medical education in this country, and especially as connected with a proposed National Medical Convention. In conceding this liberty to the respective writers, we believed we were only extending that editorial courtesy which we should ourselves expect to have granted us, under like circumstances. In so doing, however, we have avoided making ourselves responsible for individual* views and opinions, and, indeed, we have thought it proper to state, formally and explicitly, that we did not assume such responsibility for anything in the Journal,

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* In a recent letter from Dr Davis, we have the following explanation on this point: "Concerning the articles which I have furnished for your journal, I will only say, what is apparent to all, that they had no more connection with any committee appointed by the N. Y. State Medical Society, than any other article contained in the same journal. It was, indeed, to prevent any such mistake, that the articles were only signed with the initials of my name, and wherever the committee was in any way referred to, it was uniformly spoken of as separate from the writer himself. For those articles, with all their faults, I alone am responsible."

except what came from our pen. With this understanding we have given free latitude to discussion on a variety of subjects, and allowed opinions to be advanced sometimes not in accordance with our own; believing that such a course was best calculated to satisfy our readers, and advance the interests of truth. With regard to the expediency of holding a National Medical Convention, as suggested by the Medical Society of the State of New York, we have, on different occasions, expressed ourselves as favorably disposed; in common, we believe, with the whole medical press of the country.

We believed that the time had arrived when a national association might be successfully founded, which would be productive of benefits to science and to our common profession, for a long time to come. We thought, and still think, that such an organization may be made extremely useful in this country, where we have nothing to hope from national or State legislation, serving, as it would, for the interchange of ideas, for communicating the results of individual observation and experience, suppressing quackery, encouraging scientific inquiries, and collecting and diffusing medical knowledge. Such an association, as has been well observed, if well organized and judiciously managed, would probably do more in furtherance of the progress of science and to raise the standard of our profession, than any legislative enactments which we can ever hope to procure, perhaps more than legislation could do, if its action were placed entirely at our disposal, as it would serve not only to develope and cultivate medical science and literature, but would give to them a nationality of character, which, as Americans, we ought, in justice to ourselves, to consider.*

With such views, while we have favored the plan of forming a general association, by means of a national convention of medical men, to assemble in accordance with an invitation from our State Society; at the same time, we have expressed our doubts, whether any common standard of qualification for graduation could be agreed upon by the different colleges, or that it would be even expedient to attempt it; although we have supposed that a foundation might be laid for future concerted action, if deemed expedient. It seems certainly desirable that there should exist a mutual and friendly understanding between the different medical schools and societies of the country, in order to prepare the way for future reforms, if found necessary; and this, perhaps, can be brought about in no way so successfully, as by meeting together, forming acquaintances, and conferring orally on matters relating to our common interests. We had supposed, we repeat, that the time had arrived when there might, at least, be an attempt made, especially in some of the older and wealthier States, to fix on some standard of qualification *preparatory* to the study of medicine, as a competent knowledge of the English and Latin languages, and the elements of Natural Philosophy—that perhaps the period of medical study might, with advantage, be extended from three to four years, that the credit system might be abolished in our medical schools, and that the lecture terms might be extended to five months.

These are questions which may very properly be discussed in such a convention, and there are others of a similar kind, which would properly

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* See Buffalo Med. and Surg. Journal for January, 1846.

come under consideration. The profession in this country is too isolated, too much broken into fragments; its influence is greatly weakened in consequence of the want of some common bond, or cementing medium; individual interests are bound up in collective interests, which can only be successfully promoted by harmony, union, and co-operation; and though reforms, like *charity*, should begin at home, they cannot be carried out to the desired extent, so as to tell upon erroneous public opinion, and regulate the pressure from without, under which we are all groaning, except by combined, systematic, and organized efforts. But in advancing these measures, we should not forget the importance of cultivating a profound respect for our own private and professional characters; maintaining, with inflexible constancy, the principles of integrity and honor; performing with diligence and cheerfulness, the daily and hourly duties required of us, and aiming with persevering industry, to adorn the profession to which we belong, and increase its usefulness, by making constant additions to our own knowledge, and the general resources of our art.

The recent valedictory address of Professor Paine is occupied chiefly with the discussion of the subject of this proposed convention, which he handles with severity, dwelling at some length on the observations of our correspondent Dr. Davis, as contained in the number of our Journal for November, 1845. We should have preferred to have seen the matter discussed simply on its own merits, apart from other considerations; but we have no particular objections to offer, although a different course has been pursued. But, notwithstanding we are so unfortunate as to differ somewhat in opinion with Prof. P. on this subject, our feelings are not particularly enlisted on one side or the other; we have looked upon the project as an experiment, which would probably eventuate in good results, especially if well managed and judiciously carried out. But to accomplish the greatest amount of good, and to carry out to their full extent the objects for which it was called together, it should undoubtedly represent fairly the different States or sections of the Union, and no particular State, city, or locality, have an undue and preponderating influence.

With respect to the particular passages quoted by Prof. P. from the remarks of Dr. Davis in our November number, we cannot say that we entirely approve their spirit, or stand ready to endorse them in their full extent, although we believe they were well intended, and honestly entertained by the writer. The defects in our present system of medical education are more obvious than easy to remedy; they are, in a measure, incidental to the circumstances of our country; and while all should be willing to acknowledge the existence of imperfections, and labor for their removal, we should be careful not to exaggerate such as really do exist. For example, as to the frequency of *routine* practice, of which Dr. D. speaks, we think the sketch too highly colored. So far as we have observed, American physicians are generally in the habit of closely investigating the seat and character of disease—of studying its pathology—using careful discrimination in diagnosis—and skilfully adapting their remedies to the particular indications to be met. We have found, it is true, great diversity in attainments, in skill, in tact, and experience; but we have noticed the same in all other pursuits and callings; and we are inclined to think that there is very little of *routine practice*, strictly

so called, among regularly educated physicians in our country; except, indeed, it be among homeopaths,—with them it is all *routine*, and can be nothing else. Indeed we have often been surprised to witness the skill and judgment displayed by physicians in remote, thinly settled parts of the country, in the management of difficult, complicated, or obscure cases of disease—men, too, who had never visited a hospital, or attended a clinique. In such places, away from all extraneous aids, the mind is thrown upon its own resources, the intellect is sharpened, the judgment strengthened, and observation made more acute; the result is, a class of independent, strong-minded, thoughtful, discriminating physicians, whose success in the diagnosis and treatment of disease will not suffer in comparison with that of British practitioners, or of many in our profession who have enjoyed the advantages of London or of Paris.

Physicians in the city estimate perhaps too lightly the qualifications of those in the country, and those in the country, perhaps, think too highly of those in the city. We are all, we fear, inclined to think too highly of ourselves, and too meanly of others, and to imagine that no good thing can come out of Nazareth. And yet, while we are so ready to disparage others, and to suppose that wisdom is born and will probably die with us, we are a very thin-skinned race, and feel very acutely any attacks made on us, as individuals, or as a profession. If a man rises up in our State Legislature and calls us a "set of old women," we take fire instantly; stand upon our dignity; show by our sensitiveness, that we are hit; flounder incontinently; are laughed at deservedly,—and yet we are not at all backward ourselves sometimes in saying hard things of the profession.

On one point, we find Professor Paine agreeing with Dr. Davis, and that is, in relation to the necessity of more care on the part of individual practitioners, concerning the capacity and qualifications of young men whom they receive into their offices as students, and more attention to their education after they are received.

Dr. P. thinks that "these are appropriate subjects for united deliberation;" but then he differs with Dr. D. as to their "magnitude and universality, and the terms in which they are expresed."

It seems to be the opinion of Professor P. that the main object of the National Convention is, to cripple and embarrass the Medical Colleges, rather than promote the cause of medical science. But we have too much confidence in the wisdom and good sense of the profession to harbor such a suspicion for a moment. We believe that they have no desire to injure medical schools, but rather to promote and ensure their prosperity, by considering, suggesting, and maturing plans for the more successful accomplishment of the objects for which they were established. If we mistake not, the principal supporters of the plan of a national convention are themselves, professors in some of the colleges, and if the project did not originate with the schools, it is very certain that without their aid it cannot be carried into successful operation.

In a recent letter from Dr. D., intended for our pages, but which we are compelled to omit, he remarks :—

"It may be, that in my zeal to bring about a better state of things, I may have

used a too sweeping phraseology in my communications published in the 'New York Journal of Medicine' for November and January last; if so, I *retract* the objectionable language with far more pleasure than I used it. It is to the medical profession that I have devoted my life, my fortune, my labor, by night and by day; for this I have renounced every other worldly pursuit, and I would as soon slander myself as intentionally slander the profession of my choice."

However objectionable the language of Dr. Davis may have been, it is by no means more severe than we often meet with in foreign journals, as descriptive of the state of medical education, and the profession in Great Britain. For example, the *Dublin Medical Press*, for Feb. 25, 1846, remarks as follows:—

"Nothing can be more monstrous than the conduct of the English College of Surgeons in examining in anatomy and surgery only, except it be the practice of granting diplomas to persons *utterly deficient in preliminary education.* We are assured by an experienced grinder that *he has* passed men who could scarcely read or write."

We repeat, that the colleges of this country enjoy at this moment the confidence of the profession; the fact that they are so extensively patronized, that such a large proportion of the young men who study medicine, find it for their interest to attend lectures in some of our incorporated schools, shows, that the advantages they furnish are properly appreciated, and that it would be an act of suicidal policy to abridge their usefulness. We are satisfied there is no desire on the part of the profession to do aught of injury to medical schools; they know the study and labor necessary to qualify for the business of teaching, and how poorly, also, that teaching is paid: they are well aware, that with few exceptions, the practice of medicine is far more profitable than teaching the science. They see the benefit accruing to students from attending courses of lectures, and therefore it is that they extend the hand of encouragement to medical schools, and cherish them by their friendly patronage and influence. Hence it becomes the duty, as we think, of the colleges, to reciprocate these friendly feelings, to conciliate further good offices, to co-operate in adopting measures to advance the interest of our common profession, and by raising the standard of education, raise also its respectability. Our interests are all bound up together, and one cannot suffer without the other; or in the more expressive language of Professor Paine, "The pursuit of medicine to cultivated minds, is what the sympathetic nerve is to the various parts of organic life. What is felt by one, is thus felt by the rest; and whether healthy or deleterious causes may affect the condition of any part, it is enjoyed or suffered by all the rest. Each in its turn, and all together, conspire in recuperative effort for the good of any member that may sustain aught of evil. However distant from each other, we are still but parts of a common whole, and the most remote member is as near to the whole, and can as speedily reach the whole by a glance of the mind, as the heart can light up a glow of joy through that same mind in its connection with organic sympathy."

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Transactions of the Medical Society of the State of New York for 1846.—We have received a copy of the Transactions of our State Society for the last year. The most important paper in it, is a

communication from Dr. Hun, of Albany, on Phlebitis. There is also a valuable article from Dr. Davis, and a very excellent Address to the Monroe County Medical Society by Dr. Armstrong. Drs. Beck and Brigham furnish an analysis of testimony on the trial of Alvin Cornell for murder. The remainder is occupied with the Appendix, containing an abstract of the proceedings of the Society.

Among other doings, we find the following resolutions, which passed the Society:

"*Resolved*, That every candidate for license to practise physic and surgery, should be required to give evidence to the board, by whom he is examined, that he has received a good academical education, and that he has studied physic and surgery not less than four years with some regularly licensed physician; that he possesses a competent knowledge of physic and surgery; that he has personally assisted in the dissection of at least two good anatomical subjects, under the direction of a regularly educated physician, or in some incorporated medical college in this state; that he is practically acquainted with chemistry and botany, and has presented the board with an essay on some medical subject, written by himself; and that he is twenty-one years of age, and of good moral character.

"*Resolved*, That a board of censors, to consist of not more than five from each of the censorial districts, be chosen,—the choice to be made from the candidates who may be nominated by the county medical societies, composing the respective censorial districts,—by a majority of the votes of all the members of the State Medical Society present and voting, at any annual meeting thereof. The term of office of each censor, in the respective censorial districts, to be determined at the first election by lot, and thereafter the vacancy of one in each censorial district to be filled by the State Society at its annual meeting; seven of said board of censors to constitute a quorum for the transaction of business,—to meet at such times and places, and be governed by such rules and regulations, and receive such compensation for their services, as the State Medical Society shall, from time to time, direct. The board of censors thus constituted, shall examine all candidates for license to practise physic and surgery; and to such as are found qualified, agreeably to the requirements of the preceding resolution, it shall be their duty to grant a license to practise physic and surgery, under the auspices of this Society, after filling their certificate, as now required by law. Said board may also examine such candidates for the degree of Doctor of Medicine, as have been practitioners of medicine in good standing, for at least five years, and by a vote of two-thirds of the board of examiners present, may recommend such candidates to the Regents of the University, as suitable persons on whom to confer said degree. Each person licensed, to pay to the president of the board of censors, for the use of this Society, twenty-five dollars; and each person who is recommended as entitled to the degree of Doctor of Medicine, to pay as aforesaid, the sum of thirty-five dollars, and no license to be granted, or degree conferred, until said fees are paid. And that said board annually report their doings to this body. And all laws relating to granting licenses to practise physic and surgery, and to conferring the degree of Doctor of Medicine in this state, inconsistent with the above regulations be repealed.

"*Resolved*, That this Society should appoint eight committees, corresponding with the number of senatorial districts in the state, whose duty it shall be to carefully investigate such subjects as shall be referred to them, and report annually, in writing, the result of their investigations, to the regular meetings of the Society; and that, as far as possible, the necessary expenses of such investigations be audited and paid out of the treasury of this Society.

"*Resolved*, That in order successfully to raise the standard of medical education, it is necessary, at the same time, to improve primary popular education, in reference to the subject of medicine; that in order to appreciate knowledge, it is necessary to understand something of the principles upon which it is based; and that physiology, chemistry and botany, should constitute essential parts of a common school education.

"*Resolved*, That the resolutions in reference to medical education, as revised and adopted at this meeting, be committed to a committee of three, whose duty it shall be to lay a copy of the same before the officers of each county medical society and college in the state, asking definite and direct action thereon, by the societies and colleges represented by them, and that the committee report the result of such action at the next annual meeting of this Society. And that N. S. Davis, T. W. Blatchford, and J. A. Wing, be said committee."

In respect to the second resolution—relating to the appointment of a board of censors to examine candidates for license to practise physic and surgery, and for the degree of M.D.,—it is evident that the State Society has no power to assume this control over the licensing business: which is now vested in certain bodies by legislative acts. We are certain that even the Legislature itself has no power to take from the colleges their chartered rights to confer the degree of M.D.: and if it could be done, many doubt whether it would be vested in any body, where it would not be liable to equal, if not greater, abuse than it is at present. Suppose the second resolution were *now* enacted into a law, does not every one perceive that the only effect of it would be to drive students from this state into those states where the degree of M.D. could be procured after three years' study, and where the qualifications for it are no greater than they now are in our own state? We agree, therefore, fully with Dr. Stearns, as expressed in his letter (p. 195), that, "however plausible the proposed plan may appear in theory, it is not dictated by practical experience, and its existence would not endure half of that period of time that has marked the duration of county societies under the present law." If there is to be a change, the different colleges might do as Geneva College has done, *make their examinations public*, invite the censors of the State Society to be present, appoint a board of medical curators who may also be present, and let a majority of the votes of all be necessary to confer the degree of M.D. This plan has worked admirably well at Geneva College, and given satisfaction to the profession universally. Why may it not be extended to other institutions?

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Medical Department of the United States Army.—We frequently receive letters requesting information in relation to the mode of, and qualifications for, admission into the Medical Corps of the United States Army, &c. We have therefore thought that we should do our readers a service by spreading the following intelligence upon the pages of our Journal. From the printed "Regulations" we extract the following, relating to the "*Medical Board of Examination*" (1840).

1. "No person shall be appointed or promoted in the Medical Staff of the Army, until he shall have passed an examination before a proper Board, and received therefrom a favorable report.

2. "A Board consisting of three Medical Officers, will be detailed from time to time, by order of the War Department; who will examine all persons, between the ages of 21 and 28, authorized to present themselves. In the execution of this duty, they will rigidly scrutinize the pretensions of each candidate; taking into consideration his physical qualifications and moral habits, as well as his professional acquirements, and will report favorably on no case admitting a reasonable doubt. The health and lives of the officers and soldiers are too important subjects to be committed to ignorant and incompetent hands.

3. "The Board will report the positive merit of the candidates in the several branches on which they may be examined, and their relative merit from the

whole examination, agreeably to which they will receive appointment, and take rank in the department.

4. "When a candidate for appointment shall fail to receive a favorable report, he may, if desired, be admitted to a second examination, after the expiration of two years, and on a second failure will be dropped from the list of applicants.

5. "No allowance will be made for expenses of persons undergoing these examinations, as they are considered indispensable pre-requisites to appointment, but those who are approved and receive appointments, will be entitled to transportation on obeying the first order.

6. "No person shall be appointed a Surgeon until he shall have served five years as an Assistant Surgeon in the Army; nor shall any Assistant Surgeon be permitted to decline promotion, except for reasons growing out of the interests of the service. At the expiration of five years' service, or as soon after as practicable, each one shall be examined by a Medical Board for promotion, and in the event of his refusal to appear before the Board, or his failure to receive a favorable report, his connection with the Medical Staff shall cease from that time."

On the subject of the high professional qualifications exacted for admission into the Medical Corps of the Army and Navy, in connexion with the numerous rejections by the respective examining boards, we have also sought and obtained from a high and reliable source, some information, especially in regard to the Army, which may not be uninteresting.

It would appear that previous to the year 1832, the executive, experiencing great difficulty in selecting well qualified persons from the numerous applicants for appointment in the Medical Staff of the Army, instituted by regulation, a Board of Army Surgeons, for the examination of Candidates. So rapid and apparent were the beneficial results of this measure, that two years afterwards it was confirmed by a law of Congress. By the language of the regulation, "the Board are required rigidly to scrutinize the pretensions of each candidate; taking into consideration his physical qualifications and moral habits, as well as his professional acquirements; and will report favorably upon no case admitting a reasonable doubt. The health and lives of the officers and soldiers are too important objects to be committed to ignorant and incompetent hands."

The question to be determined on these examinations is the fitness of the candidate for the duties and responsibilities of the *Military Medical Service*. The examinations are conducted by Army Medical Officers, who are not only, from their position, most likely to form an unbiassed judgment, but who possess such practical knowledge of the duties required of an Army Surgeon as enables them to judge correctly of the candidate's qualifications.

The Military Surgeon has duties and relations peculiar to himself; and the Boards, in selecting candidates for appointment, have had respect as well to their fitness for the special duties of the office, as to their purely professional ability. Under the Regulations, the Medical Officer is required to investigate the physical agents that may affect the health of the troops, to make reports upon the medical topography of his station, to aid in the selection of military positions, and as a question of military hygiene, to express his views in respect to the diet, clothing, quartering, and exercises of the troops. He is, from the necessity of the case, a *general practitioner* in the most extended sense of the term, and from

location he is often thrown entirely upon his own resources, and deprived of the advantage of calling to his aid the friendly counsel of professional brethren.

Nor have the army medical officers been regardless of the high claims of medicine in itself as one of the *liberal* professions. Themselves medical men, they feel a deep interest in the character of the profession, and rejoice in any measure that would tend to promote its honor and efficiency

The following table will show the results of the examinations by the Army Boards for the last five years:

Years.	Presented themselves.	Withdrew, a portion being physically disqualified.	Examined.	Approved.	Vacancies happening within the year.
1841	22	8	14	6	5
1842	12	2	10	2	2
1843	14	4	10	4	1
1844	9	2	7	3	1
1845	12	2	10	2	3
Total	69	18	51	17	12

It having been erroneously supposed by some, that the Board merely elected a sufficient number of the best qualified candidates to fill the vacancies existing, or likely soon to happen, we are explicitly assured that such is not the fact,—that *all* candidates deemed qualified are approved as a *matter of course*, whether there be one vacancy or twenty. Neither the department nor the examining boards could ever reconcile it to their notions of fair and honorable dealing to make the success of a candidate depend upon the casualties of service.

The most striking causes of failure on the part of the candidates are, *insufficient preparatory education—a hurried course of professional pupilage—want of proficiency in practical anatomy, in pathology, and in clinical medicine.*

The following extract from one of the Reports of the Board will show the principles upon which the examinations have been conducted, and, also, that the members of the Board were painfully impressed with the necessity of reporting unfavorably upon so large a proportion of those examined:—"In reference to the fact that comparatively a small number only of the candidates examined were found qualified for appointment, the Board would respectfully suggest, that professional attainments of a higher order are deemed requisite in the medical officer of the army than in the young practitioner in civil life, for the reason that whilst the circumstances of the service very often place the one far beyond the reach of counsel from his professional brethren, the other may ordinarily avail himself of the riper knowledge and superior skill of his more experienced fellow-practitioner. The Board in establishing, therefore, what may be regarded an elevated standard of professional qualification, have, in their opinion, but acted in conformity to the spirit of the Law and Regulation under which they are organized; and though in the conscientious discharge of their duties, they may have necessarily caused pain and disappointment to gentlemen of admitted moral worth, and integrity of personal character, they find not their justification merely, but motives to action,

which they are not at liberty to disregard, in a sense of the duty they owe the cause of humanity, and the best interests of the service."

April 13, 1846.

The following are the *Rules of Proceeding* adopted by the Medical Board of Examination:

Rule I.—The proceedings of the Board shall be confidential.

II.—Candidates shall be examined at the discretion of the Board in such order that, cæteris paribus, those who come the greatest distance shall have precedence in the order of examination.

III.—The order constituting the Board, and the Executive Regulations defining their duties, shall be read to each candidate previous to his examination.

IV.—Each candidate shall, previous to his examination, be required to make a certificate in regard to his age, health, &c., agreeably to form.

V.—As introductory to his examination, each candidate shall be required to prepare in writing a *brief* extemporaneous description of the causes, symptoms, pathology, treatment, &c., of such disease as may be assigned by the Board—together with one or more prescriptions proper in the case, written out in form for the apothecary.

Certificate of Age, Health, &c.—I hereby certify, on honor, that my true age is —, and that I have never been affected with hernia, hemorrhoids, hemoptysis, or convulsions; that I am not subject to any infirmity or predisposition to any disease, mental or physical, that would in any way disqualify me from performing efficiently the most active and arduous duties.

N.B. The candidates who have been examined were, with one exception, graduates of medical schools.

At present there are one Surgeon General, twenty Surgeons and fifty Assistants in the U. S. Army.

College of Physicians and Surgeons.—We take great pleasure in laying before our readers the following correspondence, which reflects great honor upon the parties concerned,—such examples of generosity and munificence are worthy of permanent record, as they not only add grace and dignity to our profession, but serve as examples for the imitation of others:—

"*December* 2, 1845.

"Dear Sir:—I beg, through you, to present to the trustees of the College of Physicians and Surgeons, of this city, the museum of anatomy which, at some expense of time and money, I have been collecting since my entrance into the profession. It affords me great pleasure, by this donation, to lay the foundation of what I trust may at no very distant day be a magnificent collection, and to express my deep interest in an Institution with which for so many years I have been connected as Pupil, Demonstrator of Anatomy, Fellow, and Trustee.

"With my hearty congratulations on its present prosperity, and best wishes for its future welfare, I remain, my dear sir,

"Very truly and faithfully yours,

"J. KEARNY RODGERS.

"To A. H. Stevens, M. D.,

"President of the College of Physicians and Surgeons."

"New York, *Dec.* 30, 1845.

"Dear Sir:—Upon the presentation of your highly valuable collection of

anatomical specimens to the College of Physicians and Surgeons, the trustees requested me to convey to you their most hearty thanks for your munificent donation.

"In the execution of a duty so pleasing to myself individually, I beg to add the hope, that as the collection shall hereafter increase by your future labors, so may your professional reputation keep pace with that increase, that both may be as enduring as the spirit which led to this liberality is worthy of commendation.

"With unfeigned regard,

"I am your obliged friend and humble servant,

(Signed) "A. H. STEVENS, *President.*

"To J. K. Rodgers, M. D., &c., &c."

"My Dear Doctor:—Will you do me the favor to state to the trustees, that I beg them to consider my cabinet of materia medica as the property of the College. It has been collected with a good deal of care, and contains near six hundred specimens. Although not as extensive as I hope hereafter to make it, it embraces everything really useful to the student, besides many articles which are rare and curious. With my congratulations upon the present prosperous condition of our Institution,

"I remain very truly yours,

(Signed) "JOHN B. BECK.

"To Alex. H. Stevens, M. D., &c.,

"President of the College of Physicians and Surgeons.

"*November 10th*, 1846."

"New York, *8th Dec.*, 1845.

"Dear Doctor:—I have the honor to acknowledge the receipt of your letter conveying to the College your very valuable collection of specimens of the materia medica. It was duly presented to the trustees, who instructed me to express to you their cordial and sincere thanks for your liberal donation.

"I trust it will long continue to adorn the room in which the Board holds its meetings, and continue to remind them of the munificence of a professor who has long done honor to the Institution, in which he holds a distinguished place.

"With great respect and personal regard,

"I remain, most truly, your friend and obedient servant,

(Signed) "A. H. STEVENS, *President.*

"To John B. Beck, M. D., &c., &c."

It appears from the catalogue of this Institution for 1845–6, that the number of students during the past session has been greater than at any former period of the college, amounting to 218, being an increase of 25 since the session of 1844–5. Since the last session the trustees have expended a large sum in improving and refitting the college building, and other improvements are contemplated during the coming year. Besides the donations made to the college by Drs. Beck and Rodgers, consisting of an anatomical collection, and a cabinet of materia medica, a number of preparations, casts, and drawings, have also been presented by Drs. Stevens, Ludlow, and Beck, &c. Three courses of lectures are now given at the college during the year, viz., a *Fall Course*, the regular *Winter Course* (sub-graduate, required by law), and a *Spring Course*. The fall course, commencing on the 1st Monday of October, is conducted by the faculty, the spring course by an association of gentlemen, most of whom are connected with the different public medical institutions in the city; it begins in March, and is continued about three months. The circular remarks that "The Faculty feeling that the session of four months required by law, was too short even for the regular courses, and much too short to allow them to enter into specialities, have, of them-

selves, and with the co-operation of other gentlemen, extended the time, during which public instruction is given in the college, to eight months. They have already seen the happy effects of this enterprise upon the prospects and character of the Institution, and upon the proficiency of its alumni."

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ADULTERATION OF MEDICINES.—We some time ago announced our intention to make a full exposure of the deceptions practised, relative to the adulteration and substitution of drugs in this country, and we have made considerable progress in collecting information connected with the subject. We again solicit the aid of druggists, physicians, and others, in carrying on this work. We commence, by inserting the following communications, for which we cordially thank the respective writers, and trust they will furnish further information.

"*New York, February* 6, 1846.

"DR. LEE:—Dear Sir,—According to your desire, I have made inquiries among a few of the dealers and pharmaceutists concerning some of the leading articles in the Materia Medica, a synopsis of which you have following:—

"*Balsam Copaiva.* This article being now afforded at a reduced price, the genuine *Para* is easily to be had.

"*Balsam Peru.* Of uncertain purity. Doubtless mixed with Venice Turpentine.

"*Creasote.* Often mixed with *alcohol*, perhaps with *acetic acid*, as a solvent. (I have had that, however, so called, which would not thus combine.)

"*Croton Oil.* Various as to quality. The English is before the French.

"*Almond Oil.* Composed of *ol. olivæ* and *ol. amygdalæ*, in various proportions.

"*Olive Oil.* The druggists obtain much of undoubted purity, yet there are substitutions. A thousand boxes were some time since thrown into this market, not a bottle of which perhaps contained an ounce of the real article. *Lard Oil*, it is thought, is exported from the United States for this manufacture.

"*Calomel and Blue Pill.* As made in Philadelphia, at two celebrated laboratories, unsurpassed, not much adulteration.

"*Elaterium.* Clutterbuck's is *the* article. An extract, however, of very inferior value comes from Paris.

"*Rhubarb.* Now cheap. Eng. Rh. is 20 cents per lb. This, as well as Ipecac and Jalap, is imported in the pulverized form, or made such here, perhaps, is mixed variously with liquorice root, calombo, etc.

"*Syr. Ipecac.* Weismann makes his with emetine, which is of pleasant flavor.* The Brazil Ipecac is superior to the Maracaibo.

"*Jalap.* The fibrous part of the stalk, next the root (the footstalk), is often ground up with the root proper, making a powder of weak efficacy.

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* We have found the syrup, prepared from emetine, altogether too acrid and violent in its effects to be given with safety to infants and young children, and do not employ it.—ED.

Though the apparent difference is only in the slightly lighter color of the compound.*

"*Ponderous Magnesia* is made by a more thorough calcination, and has a decided advantage in the point of bulk, if no otherwise. Much like Henry's.†

"*Iodides.* The Philadelphia are good. French Hydriodate of Potash sometimes contains lime. The real Pelletier are, however, pure and reliable. The Syr. of Iod. of Iron is made in a short time, and without difficulty.

"*Iron.* Weismann showed me some beautiful specimens of his own make, superior to what I am in the way of seeing, such as the carbonate, the proto-sulphate, the muriate, etc. An acetated tincture, from a German formula, is of a very agreeable taste, and far less acrid than the common muriated tincture.

"*Sarsaparilla.* The Caraccas is allowed to be unsurpassed.

"*Extracts* would be better were they reduced only to a semi-fluid form. The Shakers' Extracts are so little divested of extraneous matters, and subjected to so high a heat, as to be not well distinguishable in taste. The German Extracts are prepared by solar evaporation, or else by the Vapor bath, and are very good. (In Germany every apothecary must have a laboratory, and prepare all the articles he dispenses.) English belladonna is, however, thought to be superior to the German.

"Yours, A. CALKINS, M.D."

"*New York, April* 19, 1846.

"DR. LEE:—Dear Sir,—In the actual state of science there do not exist proofs sufficiently positive to permit us to pronounce with certainty if a given extract is prepared from such or such a plant, especially if we wish to distinguish the extracts prepared from the different narcotic plants; it is true that the particular smell of the plant offers approximative means to decide if an extract is prepared from *Cicuta, Stramonium, Belladonna, Hyosciamus, &c.*, but this requires great practice in the different modes of preparing them, as also a perfect remembrance of the particular aroma of each plant.

"The best mode of succeeding in the examination of these extracts, is to prepare a solution of any one of them in distilled water, adding to it the twentieth part of diluted *sulphuric acid,* which will powerfully and almost immediately develope the characteristic smell of the plant.

"A most shameful substitution has been lately made and sold extensively in England, and no doubt in this country, for the *extract cinchonæ:* the following is the substance: ℞ *Extract of Horsechestnut bark* 200 parts, *Yellow Rosin* 25 parts.

"The powder of *Red Cinchona* has not escaped adulteration, being sometimes very scarce, and always commanding a fair price. A great quantity has been found to be made of *red saunders,* and inferior kinds of grey or yellow cinchonas. The best test to discover this fraud is *sulphuric ether* or *essence of turpentine.* The true red cinchona does

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* The resin of jalap, when pure, is a valuable article, being much of the color of common resin, with which it is mixed by the French.

† We think we have found this article possessing decidedly *caustic* properties, and hence unsafe for infants. Even Henry's is not always free from this property. —ED.

not communicate any coloring matter to these agents. The adulterated, on the contrary, gives almost immediately a saffron color, which varies in depth according to the different proportions of sandal wood which it contains.

"The high price of *iodine* and the *iodides*, and the great competition between the manufacturers, are the causes that these substances have been largely adulterated. The most difficult adulteration to discover of iodine is its mixture with *scales of iron*, especially if the mixture has been made for a long time; the iodine combining with the *oxide of iron*, and forming *iodure t of iron*. The best test for this is to treat the suspected iodine with double its weight of *iodide of potassium;* if pure, it will dissolve entirely; if not, a pulverulent precipitate is formed, and if treated with a new quantity of iodide, the iodide of iron is produced.

"Another substitution is that of the *bromide of potassium* for the iodide of the same base. *Brome* and its *bromides* have been for a long time at a high price, whilst *iodine* and the *iodides* could be afforded comparatively very low; but the great use lately made of the iodides for various purposes having raised their price and that of iodine from $5 a pound to $20, and even $25, it was to be feared that iodide would be adulterated with the bromide, which has been the case; but the adulterators, not satisfied with simply mixing them, have substituted others for them altogether; which entire substitution has been the means of discovering the fraud. The best mode of testing the purity of the *iodide of potassium* is to make a solution of 12 parts of pure iodide in 108 of distilled water, and another in the same proportions, with the suspected salt. Then by dropping a solution of *nitrate of silver* into it, a fine yellow precipitate is formed, which, by the addition of *nitric acid*, will form a *greyish* precipitate overflooded by a *blackish liquid;* whilst with the *bromide* a curdled yellowish-white precipitate is formed, which is not alterable by nitric acid. The *iodide* and *bromide*, if mixed in equal proportions, will, by the use of the same agent, produce a yellow precipitate partly curdled, which is changed by *nitric acid* into a blackish grey, overflooded by a red liquid.

"The *lactate of iron* should always be bought in crystals; the white powder which is sold for such does not, sometimes, contain a particle of it; it is a mixture of *proto-sulphate of iron* and sugar of milk.

"The *sulphate of quinine* is often adulterated with *mannite;* the best test is *rectified alcohol*, which dissolves the quinine and leaves the mannite untouched. *Cinchonine* is also mixed with quinine.

"Some *acetate of morphine* has been found adulterated with lime and magnesia.

"*Oxide of antimony* is adulterated with Spanish white. Nearly all of these chemicals are put up in Belgium, with the stamps of some of the best French houses.

"The *extracts* in general, which are prepared here, are adulterated, as I have told you, with the *expressed juice, or decoction of grass*, and always very carelessly prepared, as you can judge by comparing them with those which I have prepared. Yours truly,

"M. Delluc, Pharmacien."

[We also insert with much pleasure the following letter from Mr. M. Delluc, of the well-known firm of Delluc and Dupuy of this city, suc-

cessors to the old and eminent house of Place & Souillard. Mr. D. is a person of most amiable manners, a very promising pharmaceutist, and laudably desirous of an honorable notoriety. The frankness with which he makes known his manner of preparation of the articles which he communicates, does him credit: and we can speak from personal inspection of the general excellence of the drugs supplied by the firm to which he belongs. *There* is to be seen, in our estimation, the perfection of Pharmacy.—*Ed. N. Y. Jour. of Med. Sc.*]

"Dr. Lee:—Sir,—Public attention having been lately much occupied with the action of certain styptics in cases of hemorrhage, a variety of substances have been asserted to possess powers in that respect equal to the celebrated "eau Brocchieri," and among others I may mention *ergotine* and *creosote;* it is obvious, however, that in many cases both are objectionable. The distilled water,—whose preparation I subjoin,—has proved to be inferior to none of these styptics, having, in a short time, arrested effectually the hemorrhage from a deep incision in the carotid artery of a sheep, under the hands of a highly respectable physician of this city.

"I send you herewith some of this fluid for trial, hoping that the result of your experiments may equal my expectations; and I beg of you to insert the formula of my preparation in your valuable journal.

"I also send you the formula and a specimen of the combination of *hydriodate of potassa* and *stramonium*, which has been recently used with benefit in rheumatic pains, neuralgia, painful glandular swellings, etc., by physicians here—yourself among the number.

"The common ointment is liable to great objections. The hydriodate of potassa crystallizes very soon after being incorporated with the axungia or cerate. This not only impairs the efficacy of the ointment, but creates a considerable irritation, and a vesicular eruption when the small crystals of the salt are rubbed on the skin. Having been solicited by several of our medical patrons to effect a combination of stramonium and hydriodate of potassa which would obviate these objections, after a few trials I have adopted the following. It is a neat preparation, and will keep for years without decomposing.—(*See next page.*)

"I have also applied myself to prepare fluid extracts from some of our most useful medicinal plants, amongst which I may mention the following:—

"1st. *Fluid extract of senna:* this preparation contains in a concentrated form all the properties of the senna leaves, combined with some aromatic tonics; a teaspoonful will be found a very efficient cathartic, either alone or combined with some of the saline salts. Being almost without any taste of the chief ingredient, it is readily taken by children in the small dose of a teaspoonful.

"2d. *A fluid extract of taraxacum:* each teaspoonful contains 6 grains of solid extract.

"3d. *A fluid extract of rumex Britannica:* dose, a teaspoonful thrice daily.

"4th. *A fluid extract of dulcamara:* dose, a teaspoonful thrice daily.

"5th. *A fluid extract of saponaria: offic.*—so much used in Europe as an alterative instead of sarsaparilla; in fact, deemed superior to it in efficacy.

"6th. *A fluid extract of prunus Virginiana:* combining sedative and tonic properties. All these extracts are prepared by a new process by which I am able to retain all the properties of the plants unaltered—as will be found on inspection—as well as several of the most useful solid extracts prepared with hydro-alcohol.

"7th. *Aqua prunus Virg.*: to which I particularly call the attention of the medical profession—being a good substitute for, and fast superseding the use of the aqua lauro-cerasi, which is hardly ever to be found good in this country. It has been found to be more uniform and more powerful in its operation than the latter, especially in cases of nervous disorders of the stomach. 20 drops have been given three times a day, and increased gradually to 60. This water has also this great advantage, that it can be prepared at all times, and of a uniform strength, which is not the case with the cherry laurel water.*

"Having been shown lately by a medical gentleman the necessity of a chemical combination of quinine and prussic acid, which would not contain any ferruginous salts, as in the ferrocyanate, I have been able to form, by double decomposition, the *cyanuret of quinine;* being the salt sought for. It has been tried in pills of $\frac{1}{4}$ of a grain each, but found to be too active; and it is now in the way of being experimented with in doses of $\frac{1}{16}$ of a grain: the results of which, and manner of preparation, will be given hereafter, if desired.

"The following is the mode of preparing some of the articles above mentioned.

"BAUME HYDRIODATE AU STRAMONIUM.

℞ Hydriod. Potass. *	ʒ ij.
Sapo Animal.	ʒ iij.
Alcohol Dilut.	
Tinct. fol. Stramonii āā	ʒ viij.

M. et ft. sol.

"This, when well prepared, forms, on cooling, a soft jelly of a handsome green color, which readily dissolves by the heat of the hand; a small piece, the size of a hazel-nut, is rubbed on the affected part, two or three times daily, either with the hand or a piece of warm flannel.

"N.B. Either of the active ingredients can be augmented if desired.

"AQUA HÆMOSTATICA.

℞ Abiet. Palustris (young branches)	℔cl.
Fuligin. Ligni	℔iv.
Terebinth. Venetæ	℔ss.
Aquæ puræ	℔lxiv.

"The *A. Palustris* is to be cut in small pieces, then to be macerated for about 24 hours, in a sufficient quantity of water to cover it, taking care to replace the water as soon as it is absorbed. It is then put into the cucurbite of an alembic, with the other ingredients, and the 64 lbs. of water distilled off over a brisk fire. With a view to disguise the fœtid smell of the fuligo, I redistill the product of the first distillation over the following substances.

* The formulæ for preparing the above article will be given in our next No. (*Ed.*)

℞ Salviæ sclareæ		
Rosmarin. off.	āā	℔ss.
Menthæ pip.		
Menthæ pulig.		
Melissæ off.	āā	℔j.
Bacc. Juniperi		ʒ ii.
Abiet. Palustris (Saw-dust)		℔iv.

"These are to be treated by maceration for the same length of time as for the A. Palustris; the plants should be previously pulverized coarsely; they are then to be put over the grating of the alembic and smeared with

Bals. Peruv. nigr.		
Bals. Canadensis	āā	ʒ viij.

"This second distillation should be conducted very slowly, taking care to leave a sufficient quantity of water in the cucurbite after having obtained the 8 gallons, to prevent empyreuma.

"This water must be put into black bottles or in a dark place, and kept cool, having previously removed carefully the essential oil which floats on the top.

"All these preparations I venture fearlessly to offer to the inspection of the medical public, and to invite their scrutiny. I believe that they will be found very superior articles of Pharmaceutic manufacture, and most of them have the sanction of the use and approbation of our oldest and most eminent physicians. The mode of their composition, I shall at all times be happy to explain.

"Yours very respectfully,
"M. Delluc,
"Of the Firm of Delluc & Dupuy."

Bailey's Extract of Sarsaparilla and Tonic Mixture.—We have also received from Mr. Wm. Bailey of Brooklyn, a circular which is sent, or proposed to be sent to physicians generally, containing formulas for the preparation of his "*Fluid Extract of Sarsaparilla*," and "*Fluid Extract of Cinchona Rubra*," or "*Tonic Mixture*."—These preparations have been in use several years, and are favorably regarded, we believe, by the profession. The following are the *Formulæ* referred to.—(We copy as sent us.—Ed.)

Method of preparing "Bailey's Fluid Extract of Sarsaparilla,"

Best Honduras Sarsaparilla (ground),	16	parts.
Rasped Guaiac	2	"
Rad. Sassafras	1	"
Rad. Glycyr.	1	"
Fol. Senna	1	"
Yellow Dock Root . . .	3	"
Rad. Taraxicon . . .	3	"
Dilut. Alcohol . . .	160	"

All put in a tight cask, and to stand 60 days, agitating it once a week; then draw it off, and put it in a copper still; then distil off nearly all the alcohol, leaving only a sufficient quantity to keep it. The residue is the compound extract of sarsaparilla; add to this a q.s. of hydriodate of potass, so that the dose as directed will contain $2\frac{1}{2}$ grs. of hydriodate of potass.

Method of preparing "Bailey's tonic mixture, fluid extract of cinchona rubra."

Best Lima Red Bark,	10	parts.
Cort. Aurantia, .	4	"
Rad. Serp. Virg. .	2	"
Anth. Nob. . .	1	"
Alcohol Dilut. .	120	"

Digest 4 weeks, agitating it twice a week; then draw off the clear liquor, which put in a copper still, and distil off one half of the alcohol. The residue is the fluid extract. To this add sulphate quinine and salicine, so that each dose as directed will contain 1 grain quinine, $\frac{1}{2}$ grain salicine.

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Proceedings of the Counsellors of the Massachusetts Medical Society.—The Committee appointed on the fourth day of October, 1826, to consider a communication from the medical societies of Vermont and New Hampshire, and to report to the councillors, have attended to the duty assigned them, and respectfully recommend the following answer to said communication, and further, that it be printed and transmitted to the medical societies and medical institutions in the States of Vermont, New Hampshire, New York, Connecticut and Maine, and to the Medical Institution of Harvard University, and the Berkshire Medical Institution.

[Signed] John C. Warren, John Dixwell, George Hayward, } Committee.

The Counsellors of the Massachusetts Medical Society to the Medical Societies of the States of Vermont and New Hampshire:—

Greeting:—The Counsellors of the Massachusetts Medical Society acknowledge the receipt of your letters dated December 16, 1825, and June 6, 1826. The disposition manifested in these communications to improve the character of the medical profession in this part of the country, by elevating the standard of admission to practice, is received by them with peculiar satisfaction. Occupied as this Society and its counsellors have been for the last twenty-five years, in a series of constant and laborious efforts to render our profession respectable and useful; and availing themselves, as they have done, of every circumstance to enforce on candidates the necessity of fully qualifying themselves for the responsible duties of the medical profession, they cannot but regard with deep interest any proposition tending to the accomplishment of objects, in their view, so desirable. The Massachusetts Medical Society have indeed succeeded in establishing a system for their own commonwealth, and have now the gratification of seeing it in full practice. The medical institution of Harvard University have done the same. Yet the counsellors are not desirous of maintaining that their system is perfect; nor would they exclude the consideration of amendments therein, but rather invite and solicit it.

The counsellors will now take the liberty to apply the experience, the practice their Society has given to the proposals contained in your communication, with that frankness which the importance of the subject to the public good and to their own institutions seems to demand.

Proposition 1st. "Each and every student who may apply for the above purpose (license to practise) to any country society in this State, instead of applying to the medical institution for degrees, after the first

day of January, 1827, shall bring a certificate that his preparatory studies are sufficient to his being able to enter the freshman class in either of the colleges of this State, or submit to be examined to this effect, unless he may have the degree of Bachelor of Arts."

On this we remark—That the requirements for admission to the freshman class vary in the different colleges, and are much greater in some than in others. Of course the proposal in question would not have the effect to produce uniformity in the different States, and without this, all attempts at improvement would probably be fruitless. The Medical Society of Massachusetts have always demanded of their candidates a preliminary knowledge of natural philosophy. This is not included in the preparatory studies alluded to, and is yet of great importance to medical education.

Proposition 2d. "If any candidate shall have the degree of Bachelor of Arts, he shall be required to have studied three full years with some licensed practitioner, with an absence of not more than six weeks in each year. If such candidate has been only fitted to enter college, he shall have studied four years as above, before he shall be admitted for an examination for a license."

To this the counsellors of the Massachusetts Medical Society are ready to give their unqualified approbation.

Proposition 3d. "Each candidate applying as above shall have attended at least one course of medical lectures during his pupilage; shall have arrived at the age of twenty-one years, and shall have a certificate of a good moral character."

The counsellors of this Society, considering courses of lectures to be indispensable to an adequate knowledge of the medical art, and being aware that students acquire much more information from a second course than from the first, do therefore concur in this third proposal, and in the amendment made by the New Hampshire Medical Society, which substitutes two courses of public medical lectures in some legally-organized and respectable school for one course.

Proposition 4th. "Certificates of study, of morals, &c., shall be made on oath before some competent civil officer, unless given by some member of a legal medical society in this state."

"Certificates of study are not admitted by this Society, excepting from their own fellows: and, considering the necessary ignorance which the members of one society must have of those of another, we believe this regulation to be wholesome, and proper to be continued. Such being the case, the taking an oath appears to be unnecessary, and we should willingly avoid being instrumental in making this practice more common than it is already."

Proposition 5th. "Being fully impressed with a view of the necessity of a general reform, this Society, with due deference, do hereby recommend to the medical institutions in this state, and also in the neighboring states, that candidates be furnished with degrees of Bachelor of Medicine, instead of Doctor of Medicine, after the above period of time; and that degrees of Doctor of Medicine be conferred on those who may merit them seven years after the degree of M.B. may have been granted."

To the recommendation contained in this article the counsellors do not feel prepared to agree, for reasons which they will proceed to state:—

First. The precedents of this country and of Great Britain, not to go further, are against such a measure. In all the universities distinguished as seminaries of medicine, the practice is established of granting the degree of Doctor and not Bachelor of Medicine after three, and at most four years of study. Thus it is at Philadelphia, New York, Baltimore, and Boston: thus, also, is it in Edinburgh, Glasgow, and Dublin. It is true that a different practice prevails in Oxford and Cambridge in England; but it is well known that these have never been distinguished as seminaries of medical learning, and that few medical degrees are applied for in either of them.

Second. The practice of requiring a degree preliminary to that of Doctor of Medicine is useless. The candidate who has obtained the degree of Bachelor of Medicine, being by this admitted to practice, will usually be indifferent to any further degree; and, when established in practice, will rarely be found willing to interrupt the course of it, and subject himself to a new examination. In the instance where the secondary degree should be sought, the candidate would not often vary his course of pursuits with a view to such examination; and of course his literary attainments would not be very materially if at all increased by the expectation of it. The most that could be expected would be a review of elementary studies, and an examination grounded on the expectation of such a review.

Third. The experiment of granting degrees of Bachelor of Medicine has been already tried before our eyes, and has failed. In the earlier years of the medical institution of Harvard University, this system was established, and it appeared not only that the degree of Doctor of Medicine was rarely sought, but even the degree of Bachelor was not often conferred —the candidates choosing some other seminary where the demands were less complex. Many of the fellows of this medical society having been disposed to believe that the check to a full introduction to the Society contained in their laws is not advantageous, it has been recently proposed to abolish it. Hitherto it has been the custom to require every licentiate to wait three years before being allowed admission to the Society. A committee is now in existence for the purpose of inquiring into the expediency of abrogating this law.

Fourth. The proposed plan would drive those students whose pecuniary means admitted, to other institutions in which the degree of Doctor of Medicine could be obtained in a shorter time.

Proposition 6th. "This Society hereby direct their secretaries to correspond with the constituted authorites of the several medical institutions and medical societies in the states of Vermont, New York, Connecticut, Massachusetts, Rhode Island, New Hampshire, and Maine, and respectfully suggest the propriety of their adopting, simultaneously, regulations similar to the above, for the benefit of the community and the reputation of the profession: and they are further directed to accompany these ordinances with such explanations and arguments as the nature of the subject may seem to require."

Proposition 7th. "In case the above propositions shall be rejected by the constituted authorities of the several medical institutions and societies as above, then these ordinances are to be rescinded, and are not obligatory on the medical societies of this state; but if adopted to be strictly observed."

To these the counsellors are ready to give their assent. They con-

sider it not to be improbable, however, that measures similar to those proposed may be adopted by them, whether they are generally adopted or not. The counsellors are perfectly aware that changes in the requirements of candidates are attended with great inconvenience, and ought to be made slowly and circumspectly. Their own system is well established, and has been found to answer the purpose of its formation. But notwithstanding these considerations, they are willing to modify it, should it be found necessary to do so, for the purpose of founding a system of general application.

The counsellors have considered themselves bound to give you information, as soon as possible, of the state of opinion among them in regard to the proposed changes. At the same time they would have it understood, that they have no power to alter the laws of their society: this can only be done at a general assembly of the Society at its annual meeting. In order that you may be more fully informed of the system established among us, we take the liberty of sending you a copy of our by-laws, and also a copy of the statutes of the Medical Institution of Harvard University; some of which, we think, might be incorporated into the proposed improvements; particularly that which requires every candidate to write a dissertation on some medical topic.

But it is obvious that the various societies and institutions invited to concur in the proposed regulations, being governed by their peculiar laws and habits, will take different views of any system which may be presented to them, and hence they will no doubt reject some propositions made, and advance others of their own. Now, according to the proposal of the Vermont Society, the whole system is to be relinquished if not adopted by the constituted authorities of the several medical societies and institutions in the states named above: therefore, it is proposed by this body, That a convention of delegates be held in some central place, for the purpose of agreeing on a uniform system of instruction and examination of students of medicine. That this convention be composed of one delegate from each of the medical societies and institutions of all the states named in the Vermont circular; and of such other states as may be disposed to unite therein. That the meeting for this purpose be held at Northampton, in the state of Massachusetts, on the second Wednesday in May, 1827, at 10 o'clock A.M., or at such other time and place as may be judged expedient. That if a system of instruction and examination should be agreed on, the same shall be submitted to the different societies and institutions by their respective delegates, and each society and institution shall be at liberty to accept or reject it: and if the greater number of societies and institutions adopt the same, it shall go into operation. It being understood that those who adopt the system receive the benefit expected to arise from a reciprocity in the reception of practitioners, graduated or licensed at any of the several societies and institutions included in this arrangement, and those who do not adopt it are deprived of those benefits. Further, that the expenses of the attendance of each delegate be defrayed by the society or institution by which he may be elected; and that, should the Medical Society of Vermont adopt the proposal for a convention, they be requested to issue notices to the several medical institutions and societies in the states above mentioned, inviting them to choose delegates for the convention, at the time and place aforesaid, or to fix some other time and place, if it should be found convenient. At a special meeting of the

counsellors of the Massachusetts Medical Society, held at the Medical College, Mason street, November 7th, 1826 :—

The committee to whom was referred, at the last meeting, the circular letter from the Medical Society of Vermont, made a report, which, having been read and discussed by sections, was unanimously accepted.

A true copy from the Records. Attest,

GEO. HAYWARD, *Rec. Secretary.*

Boston, Nov. 27th, 1826.

The Quarantine Laws.—The labors of the Committee, to whom this question was referred by our last Legislature, have been brought to a close, and a report made to the Legislature, an abstract of which we copy.

"The Committee think that the yellow fever has been brought to this city in her shipping, either by the foulness of the vessel, the sickness of persons on board, a damaged cargo, or clothes from those who had died from the fever, or from these causes combined.

"That it may be brought to this port, when the average temperature is about 80°, from a sickly port, and not be perceived until after her arrival, and perhaps not until after she has broken bulk.

"That a vessel from any port, where the average temperature is about 80°, not passing into a colder atmosphere and arriving here in a similar atmosphere, may bring the yellow fever, if it is prevailing at the port of her departure ; or if she lies alongside of an infected vessel, or the crew are otherwise exposed to it.

"That the progress of the fever is checked by violent atmospheric commotions, and destroyed by frost.

"That it is not contagious, infectious or epidemic in a perfectly pure atmosphere, unless it has been pent up in clothes, or other substances, from persons who had the disease, and then it will spend itself on those first attacked.

"That it will develope itself in from two to twelve days after infection, and may even sooner.

"That the small-pox in the city and State of New York principally *originates* from foreign sources, and may be lessened by quarantine regulations.

"That the pestilential cholera developes itself in from one to ten days.

"That passengers arriving in vessels from Europe, not having touched at any port within the tropics, or been exposed to the yellow fever, should, if found in sound health, be allowed to come immediately to the city, after examination by the Health Officer.

"The quarantine regulations at this port are necessary, but should be made as perfect as human skill could devise, and enforced by medical science, manly energy and uprightness of purpose, with as little embarrassment to commerce as is consistent with a wise caution for the public health.

"That if it can find subjects unacclimated, it has the power on shipboard, or on its arrival at this port, of gathering strength, or of reproducing itself in an atmosphere vitiated by exhalations from persons confined in ill ventilated places, by exhalations from animal exuviæ, by noisome filth in docks uncovered by water at low tide, by marshy, undrained lands, by soil abounding with dead bodies imperfectly covered with earth, by decaying vegetable or animal matter, by putrid or impure food and water, by an uncleanly habit, by over fatigue and animal exhaustion ; and with these causes, perhaps either separately, may become a malignant pestilential disease, more fatal if the atmosphere is humid.

The following are the essential features of the act recommended by the committee, and as the whole community are deeply interested in this subject, we hope the report will be so extensively circulated as to afford general opportunity for comment and suggestion from those whose experience entitles them to consideration.

The act provides, that all vessels arriving here from where yellow, bilious, malignant, or other pestilential fevers existed at the time of their departure,

shall remain at least thirty days after their arrival, and twenty days after their cargo is discharged, and perform such other quarantine as the Health Officer may prescribe.

"The Health Officer is to board every vessel subject to quarantine or visitation, and to examine on oath, as many of those on board as he may deem proper, as to the state of health on board, or at the port from which they had sailed. He may prohibit all vessels or persons from leaving quarantine under specified times. He may permit portions of any cargo to be conveyed to the city, first informing the Mayor of its condition, his permission to be inoperative without the consent of the Mayor.

"The Health Officer, Board of Health, or the Mayor and Health Commissioner, may permit the cargo of any vessel in quarantine to be shipped for export or transportation up the North or East Rivers; but if the vessel receiving the same shall approach within 300 yards of the wharves, the cargo may be seized and sold for the benefit of the Marine Hospital.

"No vessel or boat to be allowed to pass through the range of vessels lying in quarantine, and no lighters to be employed in loading or unloading vessels at quarantine, except by permission of the Health Officer, and under such restriction as he may impose.

"All passengers under quarantine, unable to maintain themselves, shall be maintained either by the captain or on shore at the expense of the vessel, and the vessel shall not leave the quarantine until such expenses are paid.

"All persons, articles or things introduced into the city from vessels under quarantine, may be removed to the quarantine by order of the Mayor, Board of Health, or Health Commissioners.

"Any vessel arriving at the quarantine, and bound to some port east of New York, may be permitted by the Health Officer, after examination, to pass through the Sound; but she must not come to off the city, nor have any communication whatever with it.

"No vessel infected with the yellow fever shall approach within 300 yards of the city between the first of May and October.

"Every vessel having had during the voyage, a case of small-pox, infectious, or contagious disease, and every vessel having on board 40 or more passengers, and not subject to quarantine, shall be subject to visitation by the Health Officer, and is liable to such quarantine as he may direct; and he may direct the vaccination of all on board, if deemed necessary.

"The *Chamber of Commerce* is authorized to nominate in May of each year, a resident practitioner of this city as a commercial physician, to be approved by the Board of Health, to be a member of the Health Board of appeal. The said Board to consist of the Mayor, resident physician and commercial physician.

"Every appeal from the decision of the health officer is to be made in writing, within 12 hours after such decision, and the Health officer shall make his return in writing to the Mayor, who shall convene the Board of appeal, and they shall decide within 24 hours afterwards; the execution of the decision appealed from, to be suspended until the appeal is decided.

"Masters of vessels violating the provisions of the quarantine laws, to be subject to a fine not exceeding $2000, or imprisonment not exceeding 12 months." Various other penalties are prescribed, which it is unnecessary to particularize, and there are several minor provisions not necessary to notice more fully.

We shall offer some comments upon this Report in our next number.

Ichthyology of the U. S.—Dr. J. E. Holbrook, we are pleased to announce, has begun the publication of his part of this work. We believe that it is to be completed by the cōoperation of Dr. Storer, Drs. Kirkland, and Haldeman, and that their parts are to be published in a form similar to that of Dr. Holbrook's, with plates by the same accomplished draughtsman, J. H. Prichard, Esq. From an inspection of the plates prepared for the first two or three numbers, we believe ourselves

fully justified in declaring that they surpass our most sanguine expectations. In accuracy, finish, and complete success in transferring to paper the fleeting colors of the *finny tribe*, they exceed anything of the kind we have ever seen, not even excepting the figures of Cuvier and Valencienne's great work on Ichthyology. They are first printed in colors, and then finished by hand. We hope this attempt to furnish the lovers of nature with a work combining perfect execution with trifling cost will meet with proper encouragement. However humiliating the reflection, it is nevertheless a melancholy fact, that in the U. S. scientific works, particularly those relating to natural history, meet with little or no success. Unless the author is able or willing to undertake the publication at *his own cost*, he can never hope to bring his labors, the fruit of many years of patient investigation, before the public. This ought to be otherwise, and we sincerely hope that a brighter epoch is soon to commence in the history of the progress of Natural Sciences in the United States.

Subscriptions will be received at Messrs. Wiley and Putnam's, 161 Broadway, where specimens of the plates may be seen. Terms, one dollar per number. Each number will contain from eight to ten colored engravings.

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Medical Examinations in England.—The London Medical Gazette, for March 6, 1846, contains a Report of the number of candidates examined in Great Britain for Diplomas and Licenses in Medicine and Surgery, and the number of such Diplomas or Licenses actually granted.

It appears that during the three years 1842, 3, and 4, the *Royal College of Physicians* examined 161 candidates, and granted 160 licenses, the rejections being 0·62 per cent. The *Royal College of Surgeons* examined 1776 candidates, and granted 1576 diplomas; the rejections being 1·12 per cent. The *Society of Apothecaries* examined 1137 candidates, and granted 953 certificates, the rejections being 16·1 per cent. The *University of London* examined 114 (first examination) and passed 72, the rejections being 36·8 per cent. On the *second* examination, the examined were to the passed as 67 to 60, the rejections being 10·4 per cent. The *University of Cambridge* granted diplomas to 10 persons, and licensed *nine*. *Oxford University* examined *six* for diplomas, and granted it to them all. Of eight candidates for license, *seven* passed. The number of persons licensed to practice amounted, in England and Wales, in three years, to 2,721, viz., 1,576 surgeons, 953 apothecaries, and 192 physicians, being an annual average of 907 licensed practitioners.

—

Ellis's Medical Formulary—*Correction.*—The publishers of this work respectfully request those persons who have the seventh edition, to correct a typographical error for the "*medicated hydrocyanate of potassium*" at page 83; wherein the symbol for an ounce is used in place of that for a drachm. The following is the correct prescription, and corresponds with the proportions directed in all the previous editions of the work:

℞ Potassii Hydrocyanici medicati ʒj.
Aquæ Distillatæ ℥j.
Sacchari Purificati ʒiss.

Fiat Solutio.
Dose a table-spoonful, night and morning.

LARGE BILIARY CALCULUS.—The following case from our friend Dr. Fountain, presents many points of interest.—ED.

"DEAR DOCTOR,

Herewith I send you a biliary calculus. Presuming it is unusually large, an account of it may perhaps be worth recording in your valuable Journal. Having neither the means nor time to analyze it, I shall leave that for you to do, if you deem it of sufficient importance.

"The person who passed it was a female aged 78, of a large corpulent frame, and a biliary temperament. She had symptoms of jaundice on the first of May, 1844. She was attended by a neighboring physician till June 6th, when I was called in. Her skin and every part of her body was suffused with bile, and of a dark yellow color. She complained of pain about the præcordia and right hypogastrium, with total loss of appetite, accelerated pulse, white tongue, thirst, diarrhœa, ash-colored stools, &c.

"As she had been thoroughly mercurialized, I put her on the use of a strong alkaline solution, and large doses of extract of conium, diet of eggs, &c.

"By the 17th she was no better; and as symptoms of phlogosis were still manifest, I concluded there must be inflammation of the common duct, &c. I bled her freely, and applied a large blister over the region of the duct, and put her on the use of oxalic acid, half a grain in a cup of cold water every three hours, daily.

"Under this treatment she improved steadily, so that by the 25th her stools became bilious, and her appetite returned. In a few days she *seemed* quite well.

"She remained free from the disease till the first of October following, when it returned and became fully established. On the 22d she commenced the use of the oxalic acid, on which she placed great reliance. She had taken it about ten days without any relief. Sitting on her chamber at that time, her stools being thin she heard something fall in the vessel like a stone. She rose up and inspected the stool, and there she found the calculus I have sent you.

"Her husband washed it off, and undertook to break it with a hammer; but finding it so hard and *curious* he desisted, and laid it up for me. Her jaundice soon disappeared, and she has enjoyed excellent health ever since.

"It was originally uniform on its surface, and about as large as an ordinary nutmeg, and of much the same color, but rather more ovate. That part of the outer layer which is absent, was broken off by the hammer in the old gentleman's attempt to break it down.

"What agency the oxalic acid had in relieving the disease in the first instance, or removing the gall-stone in the last, your readers will, of course, judge for themselves.

"The calculus weighs now 3 iss; and I presume, before any part was broken off, it must have weighed 3 ij.

"Respectfully and truly,

"Yours.

"JAMES FOUNTAIN."

On analysis, we find the calculus above mentioned composed chiefly of cholesterine.—ED.

MEDICAL SOCIETY OF THE CITY AND COUNTY OF NEW YORK.—At a special meeting of the Medical Society on Wednesday, April 29th, the following gentlemen were elected Delegates to the *National Medical Convention*, to meet in this city on the first Tuesday in May:—James R. Manley, Isaac Wood, John W. Francis, Benjamin Drake, Gilbert Smith, W. W. Minor, F. U. Johnston, James Stewart, Thos. C. Chalmers, H. D. Buckley, W. P. Buel, James R. Wood, John J Heard, A. N. Gunn, Benj. R. Robson, John Watson, J. T. Ferguson, R. L. Morris, R. T. Underhill, S. P. White, J. R. Vankleek, John C. Cheesman, A. C. Post, Gurdon Buck, Jr., O. S. Bartles. Total, 25.

Clinical Advantages in New York.

In the January No. of our Journal, we offered some remarks on the importance of developing more fully the clinical advantages of this metropolis. We regret that the scope and spirit of these remarks have been misunderstood, and that our object in offering them has been, in some instances, entirely mistaken. Instead of wishing to depreciate the advantages furnished to the student by this city, while we exalted those of other places, our aim was solely to encourage such exertions and efforts as should make New York, beyond all competition, the grand centre of medical education in the United States. But to point out what ought to be done, it was of course necessary to show what the actual state of things, as regards clinical advantages, was at the time; and in doing this—if we did not actually underrate them—we perhaps conveyed the impression that they were considerably inferior to those of Philadelphia. If so, we owe it as an act of justice to New York, and the gentlemen who are here devoted to medical instruction—to correct such an impression, and to express the opinion, which we sincerely entertain, that no city on this continent presents, at the present moment, a greater field for clinical study, or more abundant facilities of every kind for prosecuting the study of practical medicine and surgery, than New York. For example, we have *daily* clinical instruction throughout the year in the New York Hospital; in which, during the year 1845, *twenty-seven hundred and seventy* patients were treated; presenting a greater variety of medical and surgical diseases than can be found elsewhere in any hospital in the United States.* We cannot furnish the exact number of important surgical operations, but we know from personal attendance that they are frequent, and that abundant opportunities are furnished for observing the treatment of every disease which occurs in our climate, together with many which prevail more especially in other latitudes, but which are brought hither by commercial intercourse. Attached to the Hospital is an extensive anatomical and pathological cabinet, consisting of preparations, casts, models, delineations, paintings and prints, which are very useful in illustrating the lectures, and contributing to the improvement of the student. When to this we add that a well-selected library of more than 5000 volumes is also accessible to all who choose to take the Hospital ticket ($8,00), we have a sum total of advantages unsurpassed in any public institution in the country. During the lecture term of four months, cliniques are held twice a week in the College of Physicians and Surgeons by Prof. Parker, and once a week in the University by Prof. Mott, at which a great variety of interesting cases of disease are presented and operations performed. Cases in midwifery are furnished by the professors in this department in both the Colleges, and both are supplied with extensive anatomical, surgical and obstetrical museums, with complete cabinets of materia medica, and chemical apparatus, and with all the necessary plates and drawings for illustrating the different courses. The Eye and Ear Infirmary is also open to students throughout the year, without charge; and lectures on this subject are delivered by one of the surgeons during the spring months, besides clinical instruction daily. In addition to the regular winter course at the College of Physicians and Surgeons, two other courses are given at

* The Charity Hospital of New Orleans is perhaps an exception to this remark.

the College, viz., a *fall* and a *spring* course—the first by the faculty, and the latter by an association of gentlemen, most of whom are connected with the different public institutions in the city. At the Hospital also a spring and fall course of lectures is given by the physicians and surgeons of that institution.

To sum up, during the past year, besides the regular course of winter lectures at the two colleges, there have been delivered, or are now delivering, the following lectures, by the gentlemen whose names are annexed :—

On Hygiene, by Prof. J. M. Smith ; Comparative Anatomy, by Prof. Watts ; Scrofula, by Prof. Parker ; Reproduction, by Prof. Gilman ; Anatomy and Diseases of the Eye, by Geo. Wilkes, M.D. ; Diseases of the Skin, by H. D. Buckley, M. D. ; Surgical Anatomy, by James Quackenboss, M.D. ; Pathology of the Chest, by A. Clark, M.D. ; General Pathology, by W. C. Roberts, M.D. ; Male Urinary Apparatus, by Prof. Parker ; Diseases of the Uterus, by Prof. Gilman ; Special Anatomy, by Prof. Watts ; Lithotripsy and Diseases of the Genito-Urinary Organs, by F. Campbell Stewart, M.D. ; Materia Medica and Pharmacy, by B. W. M'Cready, M.D. ; Ophthalmic Surgery, by A. C. Post, M.D. ; Surgical Anatomy and Genito-Urinary Organs, by G. Buck, M.D. ; Surgical Pathology, by J. Watson, M.D. ; Diseases of the Chest, by J. A. Swett, M.D. ; Pathology of Nervous System, by J. H. Griscom, M.D. ; Pathological Anatomy, by T. M. Markoe, M.D. ; Animal Chemistry, by L. Reid, M.D. ; Orthopedic Surgery, by Detmold ; All Branches of Medicine and Surgery, by J. H. Whittaker, M.D.

When to this we add the private teaching which is conducted without formal *lectures*, we think we do not exaggerate the advantages of New York as a place for thorough medical instruction in every department of medicine, when we say, that no other place in the United States can at this moment furnish a greater array of medical talent engaged in teaching, or more abundant advantages for making that teaching practically useful.

But great as these advantages are, they may by proper exertions be more than quadrupled, within a very short period. Two more hospitals are required for the accommodation of our poor population, each as large as the New York Hospital ; and there is a fair prospect, we think, that one, at least, will be established at a very early period. Bellevue Hospital, with its one thousand patients, must be made accessible to students of medicine, and that too without delay. It is a crying shame that such a wide field for clinical instruction should be actually lost to this city, to science, and to the world, merely to subserve paltry party, political purposes ;—to give to some favorite a monopoly of *private teaching* in that great establishment. Our dispensaries must throw open their doors, and allow clinical teaching not only to such persons as may be introduced by the physician in attendance, but to students generally. These are the great *desiderata now* to be supplied, and we shall not cease to agitate until the desired reforms are brought about.

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Professor Draper's Work on the Organization of Plants.—This beautiful and philosophical work has received far less attention from American physicians than its merits deserve, and this, we have no doubt, is partly, at least, owing to the form of publication, viz., the quarto. In Europe, we have reason to know that it has made a most favorable im-

pression, and is regarded as the very highest authority on the subject on which it treats. Carpenter, in his recent work on Physiology, of which we shall give an account in our next number, quotes largely from it, as do other recent writers of high standing both in Great Britain and on the Continent. We wish the publishers would bring out an edition in octavo form; when, we have no doubt, it would at once be adopted as a text-book in colleges, academies, and medical schools. We regard it as decidedly one of the ablest works of the age, and an imperishable monument of genius and philosophical taste. The same author has a text-book on Chemistry in press, which we have no doubt will supersede most others, as a manual on this subject. A History of Chemistry, also by Dr. Draper, will soon be issued in London.

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Pennsylvania Hospital for the Insane.—From Dr. T. S. Kirkbride's Report of the Pennsylvania Hospital for the Insane for the year 1845, which is a very admirable document of 56 pages, we learn that 177 patients have been admitted during the year: 151 were remaining, 159 have been discharged or died, leaving 169 under treatment at the close of the year. Of those discharged, 80 were cured, 5 much improved, 24 improved, 30 stationary—20 died—*total* 159. We are glad to learn that during the year "scarcely a single strap or mitten, or any similar apparatus, has restrained the movements of any patient," and that none whatever has been used for the last eight months. We are also pleased to see recommended the plan of *forced ventilation* independent of atmospheric changes, for we are satisfied that proper ventilation cannot be ensured in hospitals or public buildings of any kind, by windows, doors, or other simple openings made for the purpose, without artificial aid. The Report is taken up with the usual subjects generally discussed in such documents, and is highly creditable to Dr. Kirkbride, the principal physician of the asylum.

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Life Insurance.—Suicide.—"*The Mutual Benefit Life Insurance Co.*" of this city, have in a published pamphlet signified, that in all cases where suicide is committed in a state of insanity, on due proof thereof being furnished, the policy will be paid. This is creditable to the Company, and in accordance with those principles of integrity and honorable dealing, which, we believe, characterize all their operations.

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MEDICAL GENERAL CONVENTION.

PROCEEDINGS OF A GENERAL CONVENTION OF MEDICAL DELEGATES, HELD AT THE CITY OF NEW YORK, MAY 6TH AND 7TH, 1846.

A National Convention of medical men assembled at the rooms of the University of the City of New York, on May 6th, 1846, in accordance with an invitation of the New York State Medical Society, as expressed in the following Preamble and Resolution :—

"*Whereas*, It is believed that a National Convention would be conducive to the elevation of the standard of medical education in the United States ; and *Whereas*, There is no mode of accomplishing so desirable an object without concert of action on the part of the Medical Societies, Colleges, and Institutions of all the States, therefore,

"*Resolved*, That the New York State Medical Society earnestly recommend a *National Convention of Delegates* from the Medical Societies and Colleges in the whole Union, to convene in the city of New York, on the first Tuesday in May, in the year 1846, for the purpose of adopting some concerted action on the subject set forth in the foregoing resolution."

The representation was unexpectedly large, as upon opening the session the Convention numbered about seventy members, representing 11 Medical Colleges and 18 States.

The Convention effected a preliminary organization by choosing as Chairman Dr. JOHN BELL, of the Philadelphia Medical Society, and appointing Dr. W. P. BUEL, of the Medical Society of the City and County of New York, Secretary.

After various suggestions upon the proper manner of permanently constituting the Convention, and declaring who were competent to act as its members,

Dr. H. W. BAXLEY, of the Washington Medical College of Baltimore, moved that a Committee of three be appointed by the Chair, to receive the credentials of Delegates, and report to the Convention a list of those duly commissioned. Adopted.

The CHAIR appointed as such Committee Drs. BAXLEY, R. D. ARNOLD, of the Georgia Medical Society, and N. S. DAVIS, of the Medical Society of the State of New York.

The Committee then withdrew, and in an hour returned, when they reported through their Chairman, Dr. BAXLEY, that they had experienced some embarrassment in their action from the conflicting tenor of the Resolution of the New York State Medical Society, passed in February, 1845, under which the Convention was called together, and the Resolution of the same Society in February, 1846. The Resolution of

1845 recommended that the National Convention should be composed of Delegates from all Medical Colleges, Societies, and Institutions, which chose to send representatives; while the Resolution of 1846 explained this to mean that only the State Medical Societies should have the right of sending Delegates. The Committee had decided to act under the original Resolution, and therefore to admit upon their list all Delegates duly certified by any Medical Institution—leaving it to the Convention itself to decide who should constitute its members.

The names of the following gentlemen were then reported:

VERMONT.—*Society of the Alumni of Castleton Medical College.*—Simon A. Cook, Joseph Perkins, Egbert Jamieson, Horace Green, Chauncey L. Mitchell.

Vermont Medical College.—Alonzo Clarke.

NEW HAMPSHIRE.—*Centre District N. H. Medical Society.*—Charles P. Gage, Richard P. J. Tenney.

MASSACHUSETTS.—*Berkshire Medical Institution.*—Alonzo Clarke.

CONNECTICUT.—*State Medical Society.*—V. M. Dow, Rufus Blakeman, William H. Cogswell, J. G. Beckwith, Richard Warner, Eleazar Hunt, D. T. Brainard.

Medical Institute of Yale College.—Eli Ives, J. Knight.

NEW YORK.—*Medical Society of City and County of New York.*—J. R. Manley, Isaac Wood, John W. Francis, Benj. Drake, Gilbert Smith, W. W. Minor, F. U. Johnston, James Stewart, Thomas Chalmers, H. D. Bulkley, W. P. Buel, J. R. Wood, John J. Heard, A. N. Gunn, B. R. Robson, John Watson, J. T. Ferguson, R. L. Morris, R. T. Underhill, S. P. White, J. R. Van Kleeck, J. C. Cheesman, A. C. Post, G. Buck, O. S. Bartles.

Medical Society of State of New York.—John Stearns, Stephen Hasbrouck, Merrit H. Cash, S. M. Crawford, Joel A. Wing, Daniel Ayres, Darius Clark, Thomas W. Blatchford, Sumner Ely, John McCall, N. S. Davis, Augustus Willard, L. J. Tefft, Alexander McIntyre, Maltby Strong, Charles Winne.

Bloomingdale Asylum.—Pliny Earle.

The Trustees of College of Physicians and Surgeons.—Thomas Cock, Edward Delafield.

Kings County Medical Society.—Chauncey L. Mitchell, Bradley Parker, J. Sullivan Thorne, T. L. Mason.

University of the City of New York.—Prof. Pattison and Bedford.

Buffalo Medical Association.—Bryant Burwell.

Erie Co Med Society.—Austin Flint.

Albany Med. College.—J. McNaughten and A. March.

Geunessee Co. Med. Society.—John Coates.

New York Med. and Surgical Society.—F. C. Stewart, J. A. Swett, and Edward L. Beadle.

Geneva Med. College.—Charles A. Lee.

Alumni of Geneva Med. College.—Peter Wilson and H. M. Gray.

Med Faculty of College of Physicians and Surgeons of New York.—John B. Beck, Willard Parker.

MADISON CO.—*Med. Society.*—D. E. Hurd.

Trustees of the College of Physicians and Surgeons.—A. H. Stevens, E. Delafield.

N. Y. Hospital.—John H. Griscom.

PENNSYLVANIA.—*Philadelphia Med Society.*—John Bell, Henry Bond, George W. Norris, Isaac Hays, Isaac Parrish, Joseph Warrington, Alfred Stillé, J. Rodman Paul, Francis West, Gouverneur Emerson, Caspar Morris, Meredith Clymer.

Medical Department of Pennsylvania College.—Professors Patterson and Atlee.

NEW JERSEY.—E. J. Marsh, Lindon A. Smith.

DELAWARE.—*Medical Association of Wilmington.*—Lewis P. Bush.

Medical Society of Delaware.—James W. Thompson, E. S. Richards, William W. Stewart, William Cummins, Gove Sailsbury, James Couper.

MARYLAND.—*Washington Medical College of Baltimore.*—H. W. Baxley, Chas. Bell Gibson.

VIRGINIA —*Medical Society of Virginia.*—Robert W. Haxhall, Samuel A Patterson, Charles Mills, Frederck Marx, James Conway, Dr. Cullen.

GEORGIA.—*Georgia Medical Society.*—R. D. Arnold.

INDIANA.—*La Porte University.*—Azariah B. Shipman.

ILLINOIS.—*Medical Department of Illinois College.*—Edward Mead.

MISSISSIPPI.—E. D. Fenner, C. S. Magoun.

TENNESSEE.—*Medical Society of Tennessee.*—Wm. A. Cheatham.

RHODE ISLAND—*Medical Society of the State of Rhode Island.*—Theophilus C. Dunn.

On motion it was

Resolved, that all gentlemen who have presented credentials from any regularly organized Medical Society be considered members of this Convention.

THEOPHILUS C. DUNN, President of the Medical Society of Rhode Island, was then invited to a seat in the Convention, being in the city accidentally, and the State Society of Rhode Island not having held a meeting since the invitation to send a Delegation to the Convention was received.

On motion it was

Resolved, that the Committe on Credentials be continued with power to reivece and verify the names of new delegates as fast as they arrived.

On motion it was

Resolved, That one member from each State be appointed to form a Nominating Committee to nominate officers of this Convention, and that the Chair appoint the same.

The Chairman then appointed the Committee.

The Committee then withdrew.

On motion, Drs. MARSH, and LINDON A. SMITH, both of New Jersey, were invited to take seats as members of the Convention; as in the case of Dr. DUNN, of Rhode Island.

After an interval of about an hour the Nominating Committee returned, and submitted the following list of officers for the Convention:

For President.—Prof. J. KNIGHT, of New Haven.

Vice-Presidents.—JOHN BELL, of Philadelphia; EDWARD DELAFIELD, New York.

Secretaries.—RICHARD D. ARNOLD, of Savannah; ALFRED STILLE, of Philadelphia.

The Report of the Nominating Committee was ratified, and the officers took their seats.

Dr. BELL, in resigning the chair he had temporarily occupied, returned thanks to the Convention,

Dr. KNIGHT, in taking the chair as President, also returned thanks for the honor conferred upon him.

Prof. BEDFORD, of the University of the City of New York, then requested that, before proceeding to any other business, the call of the State Medical Society of New York for the present Convention, on

which it had been assembled, should be read; which was done, as contained in the Preamble and Resolutions above given.

Dr. B. then proceeded to address the Convention, and concluded his remarks by offering the following Resolution:

Whereas, The call of the State Medical Society of the State of New York for a National Convention, to be held in the City of New York, on the 1st Tuesday of May, has failed in a representation from one-half of the United States, and from a majority of the Medical Colleges; and, *Whereas*, The State Medical Society has emphatically stated, that there is no mode of accomplishing the object of the Convention without concert of action on the part of the Medical Societies, Colleges and Institutions of *all* the States; therefore, *Resolved*, that this Convention adjourn *sine die*.

This Resolution, after some discussion, was put to vote, and (the yeas and nays having been called for) it was decided as follows: yeas, 2—nays, 72.

Dr. MEREDITH CLYMER, of the Philadelphia Medical Society, then offered the following Resolution:

Resolved, That a Committee be appointed to provide other accommodations than the present for the sittings of this Convention.

The discussion on this Resolution was arrested by a motion to lay the whole subject on the table, which was carried by a vote of 34 yeas to 31 nays.

Dr. DAVIS moved that a Committee of nine be appointed to bring the subject of Medical Education before the Convention in the form of distinct propositions, suitable for discussion and action, and to report at the next meeting. The Motion was adopted and the following gentlemen appointed: Drs. DAVIS, MARCH, HAYS, WATSON, STEARNS, BRAINARD, BUSH, HAXHALL and BELL.

On motion it was

Resolved, That this Committee have power to propose any subject of discussion proper for the consideration of the Convention.

This was carried, and then Dr. KNIGHT was added to the Committee.

SECOND DAY.

The Convention met at 10 o'clock A.M., pursuant to adjournment; the President, Dr. J. KNIGHT, in the chair.

Dr. CHARLES A. POPE of St. Louis, appeared from the Medical Society of the State of Missouri, and took his seat in the Convention.

Drs. ANDERSON G. DANA of Brandon, JAMES SPAULDING of Montpelier, and JONATHAN A. ALLEN of Middlebury, appeared as delegates from the Vermont Medical Society, and took their seats.

The minutes having been read and approved, the President called upon the Committee of nine appointed yesterday. Dr. DAVIS, chairman of that Committee, stated that the business confided to their trust was of such moment, and the time permitted them so short, that they had not felt themselves prepared to submit, at this moment, a formal report; but that for the purpose of advancing the business of the Convention, certain resolutions had been prepared by the committee, which would be read.

Dr. HAYS, from the Committee, then read the following Preamble and Resolutions:

Whereas it has been shown by experience that the association of persons engaged in the same pursuit facilitates the attainment of their common objects: Therefore,

Resolved, That it is expedient for the Medical Profession of the United States to institute a *National Medical Association*, for the protection of their interests, for the maintenance of their honor and respectability, for the advancement of their knowledge, and the extension of their usefulness.

Resolved, That a Committee of seven be appointed to report a plan of organization for such an Association, at the meeting to be held in Philadelphia on the first Wednesday in May, 1847.

Resolved, That a Committee of seven be appointed to prepare and issue an address to the different regularly organized Medical Societies and chartered Medical Schools in the United States, setting forth the objects of the National Medical Association, and inviting them to send Delegates to a Convention to be held in Philadelphia on the first day of May, 1847.

Resolved, That it is desirable that a uniform and elevated standard of requirements for the degree of "M.D." should be adopted by all the Medical Schools in the United States, and that a Committee of seven be appointed to report on the subject at the meeting to be held in Philadelphia on the first Wednesday in May, 1847.

Resolved, That it is desirable that young men, before being received as Students of Medicine, should have acquired a suitable preliminary education, and that a Committee of seven be appointed to report on the standard of acquirements which should be exacted of such young men, and to report at the meeting to be held on the first Wednesday in May, 1847.

Resolved, That it is expedient that the Medical Profession of the United States should be governed by the same code of Medical Ethics, and that a Committee of seven be appointed to report a code for that purpose, at the meeting to be held in Philadelphia on the first Wednesday in May, 1847.

The resolutions were separately read and adopted.

A member moved to reconsider the second resolution, which motion, after some conversation between Drs. GRISCOM, HAXHALL, ARNOLD, and others, on the season most convenient for southern gentlemen to attend the Convention, was laid upon the table.

Dr. J. S. COATES, from the Medical Society of Mississippi, appeared and took his seat.

Dr. GEORGE H. WHITE, Physician to the Lunatic Asylum of Hudson, appeared and took his seat.

Dr. FENELON HASBROUCK, Physician to the New York City Lunatic Asylum, was admitted to the Convention.

Dr. SUMNER, from the Medical Society of Connecticut, appeared and took his seat in the Convention.

On motion of Dr. HAXHALL, a recess of half an hour was taken to afford the President an opportunity of appointing the Committees.

Dr. CLYMER received permission to correct an error, personal to himself, of the Herald concerning the vote on Dr. Haxhall's motion to lay on the table, which was stated to have received the opposition only of the members of the College of Physicians and Surgeons, whereas the vote was really 34 to 31; and but *one* member of the College of Physicians and Surgeons had voted at all on the motion.

Dr. BARTLES of New York offered the following resolution:

Resolved, That the union of the business of Teaching and Licensing, in the

same hands, is wrong in principle, and liable to great abuse in practice. Instead of conferring the right to license on Medical Colleges and State and County Medical Societies, it should be restricted to one Board, in each State, composed in fair proportion of representatives from its Medical Colleges and the profession at large, and the pay for whose services as Examiners should in no degree depend on the number licensed by them.

Conversation arose as to the expediency of discussing this subject at the present time, some being in favor of laying it on the table, and others being in favor of referring it to the Committee of seven, on the requirements for a degree, who are to report in Philadelphia, in May, 1847.

Dr. BAXLEY moved that the Resolution be temporarily laid on the table, for the purpose of affording the President an opportunity of announcing the Committees, which prevailed.

The President then announced the Committees contemplated by the Resolutions, as follows:—

Organization of National Medical Association.—F. Campbell Stewart, Stillé, Davis, Cogswell, Fenner.

To Prepare an Address.—J. Knight, E. Ives, Dow, Sumner, McNaughten, Blatchford, Burwell, Baxley.

Requirements for a Degree.—Haxhall, J. Cullen, S. Pattison (of Va.), Norris, Flint, J. Perkins, J. A. Wing.

Preliminary Education.—Couper, Bush, Johnson, Edward Mead, March, Atlee, Brainard.

Medical Ethics.—Bell, Hays, Emerson, Morris, Dunn, Clark, Arnold.

It was moved by Dr. SUMNER, of Conn., that Dr. BARTLES' Resolution do lie on the table; which was decided in the negative, by 34 yeas and 40 nays.

Dr. MANLEY offered an amendment, to refer the same Resolution to a Select Committee, to report at the meeting in Philadelphia, in May, 1847, which was carried by a vote of yeas 58, nays 23.

Dr. THOMPSON, of Delaware, offered a resolution of thanks to the Medical Faculty of the University, and to the College of Physicians and Surgeons of this city, for the offer of their rooms for the meeting of this Convention, which was carried.

Dr. J. H. GRISCOM offered the following, which was adopted:—

Resolved, That a Committee of five be appointed by the President to recommend and urge upon the several State Governments the adoption of measures for a general registration of all the Births, Marriages and Deaths among their several populations.

Drs. J. H. GRISCOM, E. EMERSON, ALONZO CLARK, C. A. LEE, and JAMES STEWART, of New York, were appointed as this Committee.

On motion, it was

Resolved, That Lemuel Shattuck, of Boston, Drs. Jarvis, of Dorchester, G. Emerson, of Philadelphia, T. R. Beck, of Albany, and C. A. Lee, of New York, be a Committee to prepare a nomenclature of diseases adapted to the United States, and having special reference to a Registration of deaths.

On motion, Dr. GRISCOM was appointed chairman of the above Committee.

Dr. MAGOUN offered the following, which was adopted:

Resolved, That the thanks of this Convention be tendered to the officers of it, for the prompt and efficient discharge of their duties.

A vote, providing for the publication of ten thousand copies of the proceedings of the Convention, in pamphlet form, was then offered and adopted, and the New York City Delegation agreed to assume the expense.

Dr. BELL moved that this Convention approve the designs and publication of the Sydenham Society, in England, which was seconded by Dr. LEE, and adopted.

Dr. COGSWELL offered a vote of thanks to the chairman, for the manner in which he had discharged the duties of his office. Adopted.

Prof. KNIGHT briefly returned his acknowledgment.

And the Convention then adjourned, *sine die*.